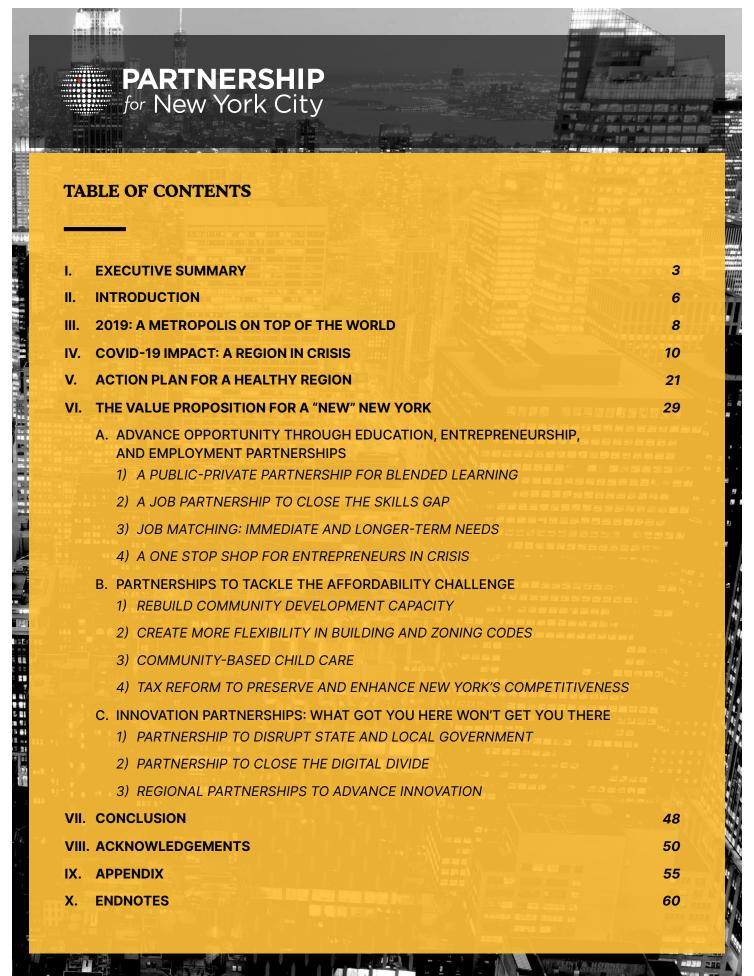
EXHIBIT 22







The COVID-19 pandemic of 2020 is exposing the strengths and vulnerabilities of New York City. This report chronicles COVID-19's impact to date on the city and metropolitan region, suggesting actions that must be taken to recover and prepare for a "new normal."

Nationally and locally, both the health care system and government were poorly prepared for COVID-19 and have been in crisis response mode since New York's first case was identified on March 1. Global companies that had been through the SARS epidemic and onset of COVID-19 in Asia provided early leadership and support. They had disaster plans and equipment, the capacity to operate remotely, and access to the best research and protocols. Governor Andrew M. Cuomo exercised emergency powers to shut down the economy and to mount a strong response that has so far contained the spread more effectively than any other state.

It will be far more difficult to restart and repair the economy than it was to shut it down. The attractions that New Yorkers value most in the city—its cultural, social, and entertainment assets—will remain at least partially shuttered until next year. As many as a third of the 230,000 small businesses that populate neighborhood commercial corridors may never reopen. The unemployment rate has risen to 18.3%, leaving as many as a million households struggling to feed their families and pay rent, with hardship concentrated among Black and Hispanic communities and lower wage workers.

Most business leaders are confident that the city will remain a leading financial and commercial center, but it will be more difficult to attract and retain talent until people trust that the urban environment is healthy, secure and welcoming. Many of Manhattan's 1.2 million office workers will continue to work remotely through the end of the year or until they know that transit is safe, and that schools and childcare centers are fully functional.

Going forward, governments will need to spend less and depend more on leveraging private financing and expertise. Challenges that predate COVID-19—rising cost of living, aging infrastructure, racial disparities in health, education, job skills and entrepreneurial opportunities—have become more pressing. Significant federal aid is essential to stabilize city and state budgets but will not be enough to fill the gaping holes left by the pandemic.

Recovery starts with ensuring that the health care system is prepared to deal with any recurrence and that a robust program of testing, tracing and monitoring is in place. Long term, the COVID-19 experience revealed the necessity of reorganizing health care delivery around community health hubs and care management, utilizing telemedicine and local organizations to provide preventative services and to address social determinants that impact public health. This will require changes in funding and delivery of health and human services, and a commitment to data sharing and interoperability among health care providers.

Economic recovery requires a multi-sector approach, with leadership from business, labor, academia, civic and community sectors. Extra-governmental partnerships should be structured to design and implement solutions to immediate needs for job training, hiring, small business relief, affordable housing, renewable energy and digital infrastructure.

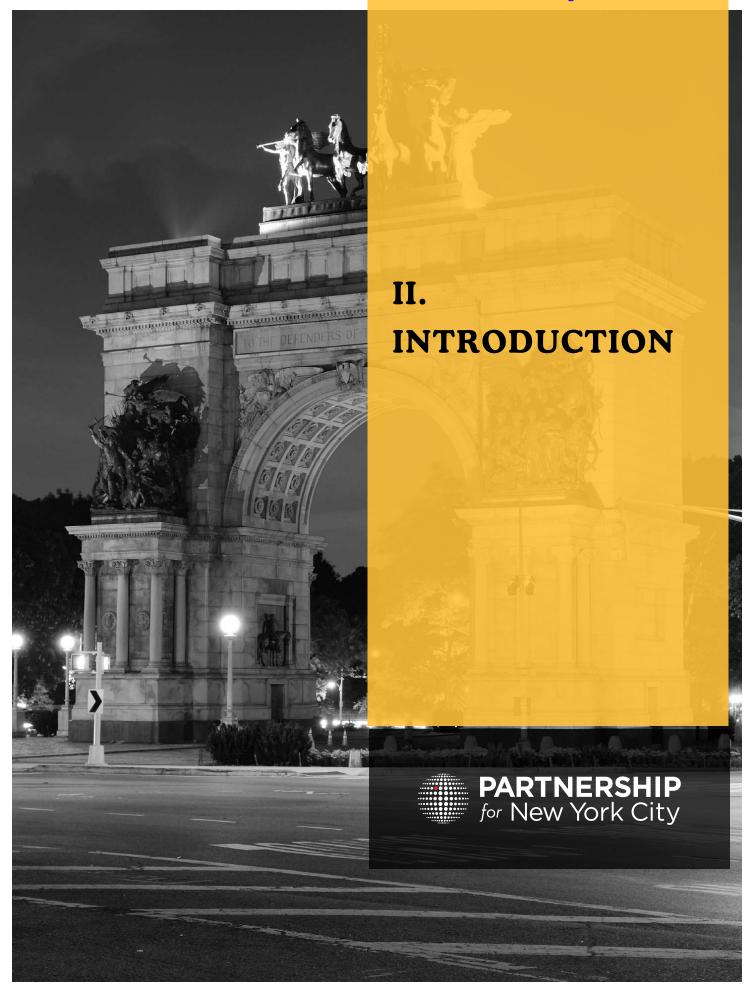
New York City has a wealth of tech savvy entrepreneurs and innovators who should be called upon to reinvent education, health and transit and to update the technological capacity of state and local government in order to meet the demands of a highly digitized, post-COVID-19 economy. This will require initial investment but quickly generate efficiencies, cost savings and greatly improved performance.

The metropolitan region has chronically suffered from fragmentation of efforts and failure to aggregate its assets to tackle problems at meaningful scale. The enormous cross-sectoral dimensions of the COVID-19 impact render such a siloed approach useless. The three-month *NY PAUSE* has demonstrated that virtual networks and social media can support large scale, fast-paced collective action by diverse groups.

The Partnership for New York City is committed to organize leadership from business and its extended networks to take action pursuant to the findings in this report, including:

- Small Business Restart & Recovery Clearinghouse, co-sponsored with the New York City Economic
 Development Corporation, the five borough chambers of commerce and others to create a comprehensive
 network of resources to aid small and minority-owned businesses, including capital access, technical
 assistance, marketing and procurement opportunities;
- Health Innovation Partnership to establish consensus on standards, a health passport and other trust
 markers to accelerate the restoration of public confidence in the health and safety of offices, transit and
 public gathering venues as well as advance the region as a global hub of telemedicine, medical device and
 personal protective equipment and life sciences;
- Education Innovation Partnership to support the transition of the public education system to a model for blended classroom and online learning, making New York (the nation's largest market for digitized education products) into a global Ed Tech hub;
- A job council comprised of large employers that will collaborate with public schools and colleges to create and improve pathways to careers;
- Cross-sectoral problem-solving sessions among diverse leaders to build consensus on issues such as transit, security and criminal justice, racial justice, community development, and tax and regulatory reform.

The 14 global consulting firms that contributed to this report will continue to be a resource on the topics covered and provide support to public-private partnerships that are working toward the recovery and reinvention of the city and region. Timing is critical to recovery, and actions to mobilize broad-based, coordinated efforts to deal with urgent issues must start now.



New York Tough. We pride ourselves on this identity. It defines our competitive edge. We boast the most productive workforce and creative entrepreneurs, the trendiest neighborhoods, world renowned cultural and arts institutions, and a heart that beats 24/7. Strength and resiliency cement New York's status as the world's preeminent metropolis.

New York has emerged stronger from past crises. Its resilience has been a tribute to the fierce love and loyalty that the city commands from generations of immigrants and aspiring young Americans who have made it here. But will that attachment be enough to overcome pandemic-generated fears of factors that define urban life: density, diversity, proximity, social interaction and dependence on mass transit? Can New York remain a magnet for talent and economic activity in an age where working remotely has proven possible, and even preferable, to the corporate office? The answers will depend on how quickly and effectively we respond to the challenges that COVID-19 has presented.

COVID-19 has shaken our confidence and tarnished our brand. By June 2020, the New York metropolitan region had experienced more infection, death and economic destruction than anywhere in the world. But it also brought out the best in New Yorkers, starting with one million frontline workers who saved lives and kept essential services running through the three long months of *NY PAUSE*.¹

This report, produced with the input of 14 top global consulting firms, assesses the impact of the pandemic at a point in time when the city and surrounding region are reopening and defining what the "new normal" means. The virus seems under control, but fears of a resurgence remain. More than 1.5 million residents of the metropolitan region are currently out of work; tens of thousands of small businesses are at risk; and significant deficits confront state and local governments as well as our health care and transit systems.^{2,3} Federal stimulus funds have been helpful, but inadequate to compensate for damages incurred.

Recovery will require unity and strength of purpose from New Yorkers. One thing is clear: returning to the pre-COVID-19 status quo is not an option. We are at a crossroads. The pandemic unleashed political, racial and economic tensions that can either leave the nation's largest and most important urban center in chaos or, as this report outlines, provide the impetus for working together for recovery and positive change.

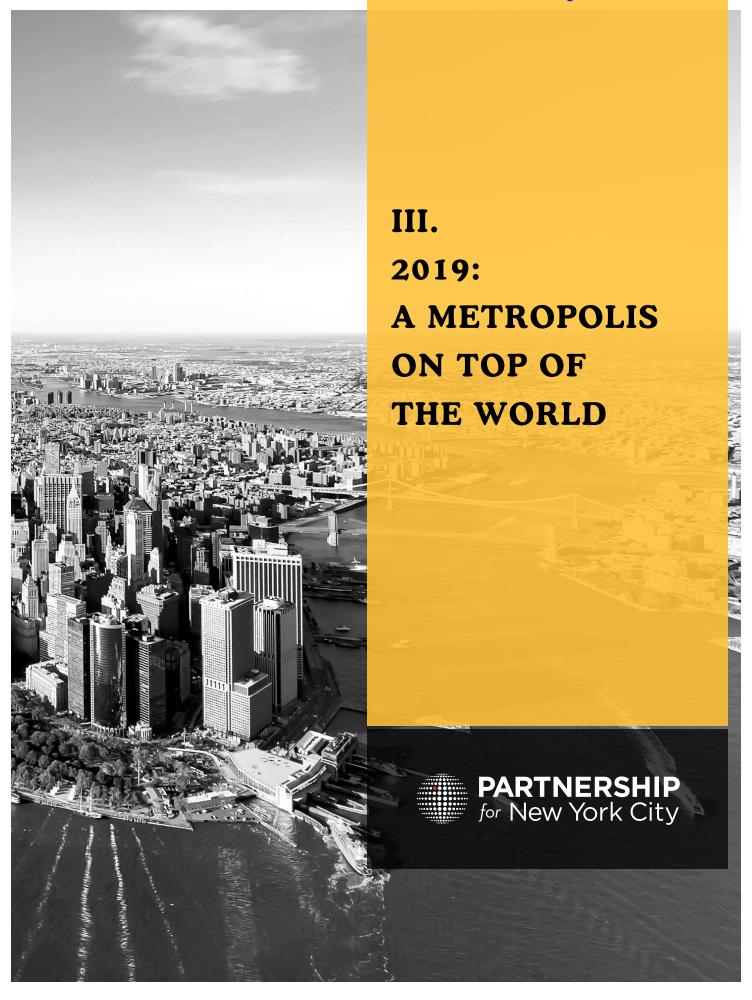
"The innovation and flexibility that the public and private sectors achieved to combat the pandemic needs to continue through recovery and beyond."

Deanna Mulligan, Chief Executive Officer, The Guardian Life Insurance Company of America

"Public-private partnerships are critical to ensuring New York City remains the greatest city in the world, full of opportunity, ingenuity and diversity."

Larry Fink, Chairman & CEO, BlackRock





Reference any list of the world's great cities. New York is always at or near the top. In 2019, the economic output of the New York metropolitan region was \$2.1 trillion, 10% of the entire U.S. GDP. The region reached an all-time high of 11.8 million jobs.⁴ Seventy-six Fortune 500 companies are headquartered here, the most of any U.S. metropolitan region, and the region outpaced the country at 3% annual economic growth.^{5,6}

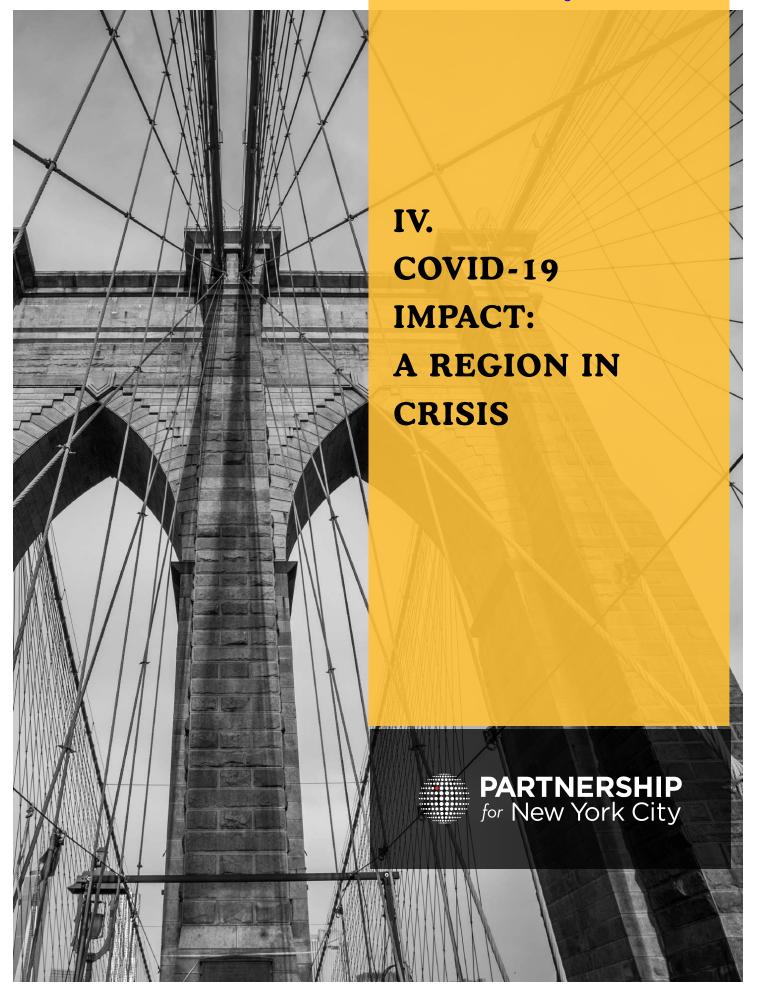
New York City drives the regional economy, led by a flourishing financial industry that is responsible for 23% of the city's wages and 1.2 million jobs. Tech is the fastest growing sector and New York City now rivals Silicon Valley as the industry's second most valuable ecosystem in the world.⁷ Since 2008, the number of startups in the city increased by over 300%.

The region owes its leading status in the innovation economy to the presence of 280 institutions of higher education.⁸ More than one million students are enrolled each year in its universities, technical schools, and community colleges.⁹ New York is the top metropolitan region for post-graduate employee attraction.¹⁰

New York City attracts entrepreneurs, talent and visitors from across the world. Thirty-seven percent of the city's population and 84,000 business owners—amounting to 49%—are foreign born; and in 2019, the city attracted more than 65 million visitors, who spent over \$46 billion, outpacing all other American tourist hubs.^{11,12}

The 21st century has been the era of great world cities, where creativity and innovation flourish and opportunities for lifetime learning, entrepreneurship, and artistic expression abound. Over the past two decades, New York saw a revival of its richly diverse neighborhoods and ethnic shopping districts, and explosive growth in arts and culture. It became a more livable city, with new and improved parks, bike paths, and waterfront access.

Despite its great assets and amenities, in 2019 New York City was becoming far less livable for large numbers of low wage workers, seniors and even young professionals. The unintended consequences of strong economic growth and rising real estate values had made the city and surrounding region unaffordable to large numbers of residents and small business owners, creating a divisive political climate and contributing to the deterioration of the social fabric of many communities. COVID-19 exposed and exploited disparities of race, income, education and health care that now demand a reckoning if the city and region are to heal.



"The COVID-19 crisis is unique unto itself and it poses challenges we haven't seen before. But New York suffered a similar downturn in the 1970s. The city was broke, crime was rampant, people fled. Strong cross-sector leadership got us out of that crisis and it is what will be needed this time as well."

Martin Lipton, Senior Partner, Wachtell, Lipton, Rosen & Katz

The impact of the pandemic is multi-dimensional, making a linear response impossible. It is not just a public health or economic crisis, but a fundamental disruption of every sector and every aspect of life, all the more so in a city and region that have a complex and interconnected ecosystem. The thin threads by which millions of New Yorkers survived before COVID-19 have been broken. Local government has been stripped of the resources that might have provided a safety net in normal times, leaving the private, philanthropic and civic sectors with an enormous responsibility to lead the way to recovery.

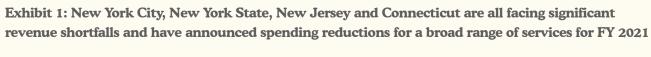
On March 20, Governor Andrew M. Cuomo issued an Executive Order to close all non-essential businesses, and confine all but essential workers to their homes.¹³ Since then, the New York State Department of Labor processed more than two million unemployment applications—1.4 million in New York City alone—with payments jumping over 1,000%, from \$2.1 billion in 2019 to \$25 billion as of late June, 2020.^{14,15}

By June 30, the New York metropolitan region had more than 545,000 confirmed cases of coronavirus and 46,000 deaths, representing 21% of confirmed cases in the U.S.¹⁶ New York City experienced more than 215,000 cases and suffered more than 23,000 deaths, representing 8% of confirmed cases in the U.S., 18% of deaths domestically, and 5% globally.¹⁷ Similar to other American cities, communities of color suffered disproportionately.

In May, the city's unemployment rate reached 18.3% and is projected to average 9.8% in 2020 and 10.9% in 2021—substantially more than twice as high as the 2019 average rate of 4.0%. 18,19 Due to the pandemic, as many as 520,000 jobs were lost from the small business sector, which includes 240,000 businesses with fewer than 500 employees in New York City; about 285,000 were lost from businesses with fewer than 50 employees.²⁰

The New York State Division of the Budget and Boston Consulting Group project a 7% drop in the state's GDP in 2020 and a 14% loss of pre-recession output through early 2023, substantially higher than the 2% decline after 9/11 or the 10% drop following the 2008 financial crisis.²¹ City output is projected to drop in 2020 anywhere from 6.0% to 12.9%, amounting to a real Gross City Product loss of up to \$115 billion.^{22,23}

The abrupt economic downturn will result in state and city tax revenue losses exceeding \$37 billion over the next two fiscal years. Recent monthly revenue reports reflect the dire state of New York's fiscal health.²⁴ Compared to 2019, state tax receipts were down 20% in May.²⁵ City sales tax collections were down 32%, amounting to \$196 million in lost revenues in a single month.²⁶ Depending on how quickly the economy recovers and whether there is a recurrence of disease, these losses could be deeper. Federal reimbursement for state and city losses is anticipated, but deep cuts in expenses as well as possible tax increases will likely be needed to bridge what is expected to be a three-year trough in revenues.²⁷





Note: Fiscal years for July thru June, except NYS which runs April thru March. 1. Impact for FY2020 since FY2021 not available.

Source: Boston Consulting Group

Exhibit 2: Economic and fiscal impacts of the pandemic on New York City and New York State

- 2020 projected real Gross City Product decline ranges from 6.0% to 12.9%
 - This represents a real GCP decline of \$54 billion to \$115 billion from 2019 levels

Economy

- Private sector employment declined 22% from February to April 2020
- City is projected to lose more than 900,000 jobs by the end of June

City finances

- The city projects an \$8 billion tax revenue decline in city fiscal years 2021 and 2022 relative to the city's January budget forecast
- City sales tax collections declined 32% in May 2020 compared to 2019, amounting to \$196 million in lost revenues in a single month

State finances

- The state projects a \$29 billion revenue decline in state fiscal years 2021 and 2022 relative to the state's February budget forecast
- State tax receipts in May 2020 were down \$767 million or 20% from the previous year
- \$1.3B decline in state and local tax revenues generated by the hotel industry

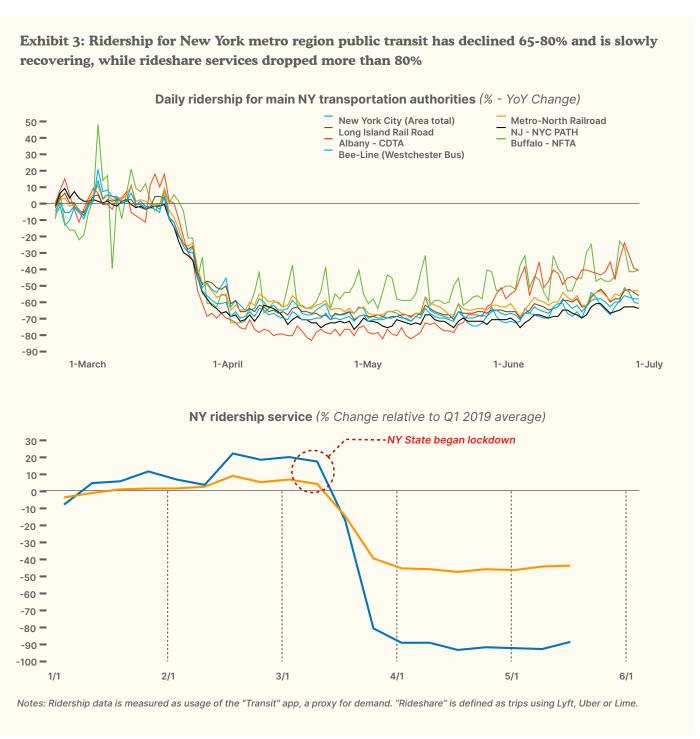
Note: For detailed sources, please see endnote 27.

Source: Partnership for New York City



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The regional mass transit system, which carried 8.9 million passengers on the average 2019 weekday, saw ridership plunge over 90%, primarily serving around one million frontline workers during *NY PAUSE*. ^{28,29} Losses will amount to over \$14 billion through 2021 and the Metropolitan Transportation Authority (MTA) will exhaust current CARES funding in July. ³⁰ The Port Authority of New York and New Jersey (PANYNJ), which operates the region's three major airports and the PATH commuter rail system, is projecting a revenue loss of approximately \$3 billion. ³¹ The capital programs designed to upgrade both the MTA and the PANYNJ are now in jeopardy without significant federal aid and the return of passengers.



Sources: Boston Consulting Group analysis of Earnest Research credit card data, 1/8/2020 – 5/13/2020; Transit App rideshare data accessed at https://transitapp.com/coronavirus, February 15 – June 17, 2020.

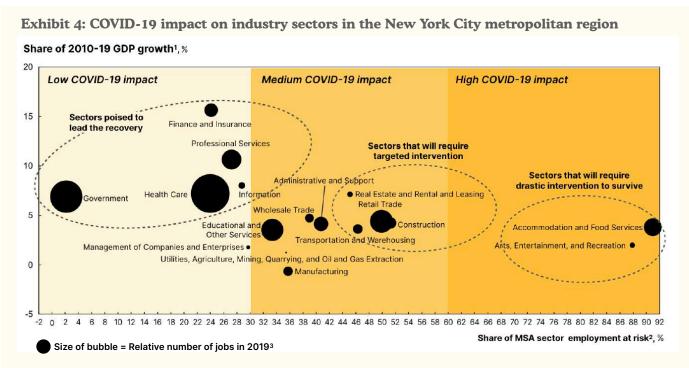
"We're all in the same storm, but we're certainly not in the same boat. It must be our mission to give every business and individual who is out of work the opportunity to restart and succeed."

Michael Corbat, Chief Executive Officer, Citigroup

When it comes to the private sector, small businesses—especially neighborhood retail—have taken particular damage as consumers experience deep financial insecurity. New York City consumer spending bottomed out at a 44% year-over-year reduction in late March, according to Mastercard. While spending gradually improved as federal stimulus funds began to flow, the recovery has been uneven across the five boroughs, hitting Brooklyn, Manhattan and Queens the hardest.³²

Federal stimulus funding helped reduce the decline in consumer spending to 8% by late May, but still far below pre-COVID-19 levels.³³ Federal aid targeted to small businesses and their employees was helpful, but inadequate. Loans to small businesses in New York state approved through June 12 totaled \$38 billion, accounting for 7% of the national distribution. This was close to New York state's share of national small businesses (8%) but not commensurate with the relative COVID-19 impact (52% of respondents to a survey said that COVID-19 had had a "large negative effect" on their business versus 38% for the rest of the country).^{34,35,36}

The abrupt cessation of travel and tourism had a devastating impact on hospitality, retail, cultural and entertainment venues, particularly the city's 27,000 restaurants.³⁷ Hotel occupancy declined 82%, with profits down over 200% at the height of the pandemic.^{38,39} Many hotels do not expect to reopen.⁴⁰ Since early March, New York state travel spending is down more than \$19 billion from 2019 levels.⁴¹ The number of international visitors to the city is expected to decline by over 5 million in 2020, down more than 40% from 2019, causing an estimated loss of over \$8 billion in international tourism spending.^{42,43,44}



- 1. Share of total growth for the 31-county NY Metro Region from Emsi Datarun 2020.1.
- 2. McKinsey Global Institute analysis based on Emsisi Datarun 2020.1, LaborCUBE; BLS OES, Moody's Analytics. "Employment at risk" reflects the income risk facing workers placed on unpaid leave, workers facing cuts to wages or hours worked, workers that exit the labor force, and workers that held multiple jobs and reduced the number of jobs worked as a result of COVID-19. Note: Analysis is for the MSA rather than for the 31-county region.
- 3. Data from Emsi Datarun 2020.1.

"This is a health crisis. We have to focus on the health issues first. The faster we heal, the faster domestic and international tourists will feel comfortable returning to our great city, which will help boost our economy and revitalize our local businesses."

Ajay Banga, Chief Executive Officer, Mastercard

Exhibit 5: Industry revenue projections vs. FY 2019 baseline for key industries in the New York City metro region

Real economy industry¹ revenue projections vs. FY 2019 baseline for key industries in NYC metro region

		Smart & Lucky		Plausible & Pessimistic		Frequent, Blunt Lockdown	
Industry	Sub-sector	2020 Revenue vs. 2019	2021 Revenue vs. 2019	2020 Revenue vs. 2019	2021 Revenue vs. 2019	2020 Revenue vs. 2019	2021 Revenue vs. 2019
Professional services		-10%	-1%	-15%	-10%	-15%	-25%
Information		-5%	-1%	-8%	-5%	-8%	-12%
Healthcare	Healthcare	-8%	-1%	-12%	-7%	-12%	-19%
	Pharma / biotech	-5%	-1%	-7%	-5%	-7%	-11%
Wholesale trade		-10%	-1%	-13%	-12%	-13%	-20%
Manufacturing		-19%	-5%	-24%	-24%	-24%	-36%
Retail trade	Retail non-food	-7%	-1%	-9%	-8%	-9%	-13%
	Retail food	5%	1%	8%	5%	8%	13%
Administration & support		-15%	-2%	-22%	-16%	-22%	-35%
Construction		-13%	-1%	-19%	-13%	-19%	-32%
Management of companies		-10%	-1%	-15%	-10%	-15%	-25%
Accommodations & food services		-33%	-17%	-38%	-43%	-38%	-53%
Transportation & warehousing		-23%	-11%	-28%	-29%	-28%	-41%
Arts, entertainment, recreation		-22%	-5%	-30%	-25%	-30%	-46%
Other services		-7%	-1%	-10%	-8%	-10%	-15%
Educational services		-3%	0%	-4%	-2%	-4%	-6%
Utilities		-4%	0%	-7%	-4%	-7%	-11%

^{1.} Industry revenue projections do not include projections for real estate, finance and insurance, and government.

Source: Oliver Wyman, industry list from PFNYC, citing Moody's Analytics and EMSI Datarun 2020.1

Retail and small business distress has resulted in losses to certain real estate sectors. Owners of mixed-use apartment buildings report that rent collection is down 60% from commercial tenants.⁴⁵ The longer-term impact on commercial real estate will depend on decisions of major office tenants regarding density, remote work and relocation of operations out of the city. Nearly half of the city's tax revenues come from real estate, so loss of value in this sector will also be a blow to the municipal budget.

Residential rent delinquencies are about 10% in market rate apartments and 20-25% in regulated or affordable units, as compared to 15% on average prior to the pandemic. (New York state has blocked residential evictions until the end of the pandemic.) Residential sales are down more than 60% comparing May 2019 to May 2020, with values on high end condominiums dropping significantly. This contrasts with rising home values in the suburbs, Connecticut and the Mid-Hudson Valley.

Depending on the duration of the COVID-19 recession, real estate losses could spread to regional banks with substantial mortgage portfolios. Actions by the Federal Reserve Bank forestalled an immediate threat, but, as failures to collect rent translate into default on debt payments, banks and investors—including pension funds—will feel the pinch.

Housing affordability posed a challenge before COVID-19, with nearly 40% of metropolitan region residents paying more than 30% of their income in rent.⁵⁰ COVID-19-related job losses add to this burden. The shortage of affordable housing units in New York City is projected to increase from 650,000 to 760,000 units within one year of the pandemic.⁵¹

The New York metropolitan region's nonprofit sector is deeply troubled, particularly in the areas of human services, arts and culture, education, and policy research and advocacy. Recent estimates show that 42% of the region's nonprofit groups (about 31,000 organizations), were already "at-risk" pre-COVID-19.⁵² A COVID-19-related decline in charitable giving is estimated at \$1.8 to \$2.5 billion across the metropolitan region, or 6-8% of nonprofit revenues.⁵³ According to a national Federal Reserve Bank survey of nonprofits, 47% have seen an increase in need for their services, while 36% reported a reduced ability to meet those needs.^{54,55}

Higher education institutions have weathered the crisis, but COVID-19 is increasing financial challenges that have been building during several years of flattening enrollment. Private colleges fear losing students in the fall, absent the ability to provide a campus experience, whereas the City University of New York (CUNY), where students are primarily local, anticipates competitive enrollment advantages. While summer school enrollment for online classes surpassed expectations, an estimated 23% of current students say they are unlikely to re-enroll in the fall for exclusively remote education. Additionally, 65% expect to pay less in tuition if courses remain remote.⁵⁶ Foreign students, who typically represent about 20% of undergraduate enrollment at the city's largest private universities and a higher share of graduate students, have been unable to secure U.S. visas during the pandemic and will be further restricted by new federal policies.⁵⁷

Silicon Alley, which boasts more than 9,000 tech startups and represents about 8% of the city's economic output, survived the pandemic relatively unscathed.^{58,59} According to Kevin Ryan, Founder and CEO of AlleyCorp, "Many tech startups have let go 10-20% of their people; revenues will be down 50% for a while for some, but ultimately startups will be taking market share from off-line players on an accelerated basis. Big NYC tech startups are doing great. In tech, this has been culling the herd."

"New York City's concentration of industries and talent is very tough for competitors to replicate. Productivity may be great working remotely, but creativity happens when we are together."

Christiana Riley, Member of the Management Board, Deutsche Bank AG, CEO, Deutsche Bank USA

Financial and professional services firms transitioned relatively seamlessly to remote operation with some resulting cost savings and productivity gains. They plan to bring employees back to the office gradually, with staggered shifts and more flexible work-from-home arrangements. A survey of employers conducted by the Partnership for New York City indicates that about 10% of workers will return to Manhattan offices this summer and only about 40% by the end of the year.

Some office tenants plan to extend remote work arrangements and downsize offices, while others are seeking more space to accommodate social distancing.⁶⁰ According to one survey conducted in late May, 25% of office employers intend to reduce their footprint in the city by 20% or more, and 16% plan to relocate jobs from New York City to the suburbs or other locations.⁶¹ Half of companies surveyed anticipate that only 75% of their workforce will come back to the office full time.⁶² Based on these responses, COVID-19 will accelerate the hollowing out of mid-level jobs in the financial sector.

As fears of pandemic fade, the desire for a collegial office work environment may increase. Training and mentorship in an office environment are particularly important for those just beginning their careers. According to a recent study, 82% of Generation Z and 81% of millennials feel less connected to their coworkers since transitioning to work-from-home. Younger workers are also feeling less connected with their company overall.

There are also differences in productivity, with 61% of Generation Z and 57% of millennials saying the amount of time spent on video calls each day is making it hard to get work done. Comparatively, only 35% of Generation X and 26% of baby boomers say the same, illustrating a gap between the older and younger segments of the workforce.⁶³

Generation Z doesn't want to be Generation Zoom									
81% of Millennials	& 82% of Generation Z	57% of Millennials	&	61% of Generation Z					
feel less connect	ted while working from home	say the amount of time spent on video calls each day makes it hard to get work done							

Source: Reimagining Work in the Era of COVID-19, Hamilton Place Strategies in partnership with Replica, April 2020

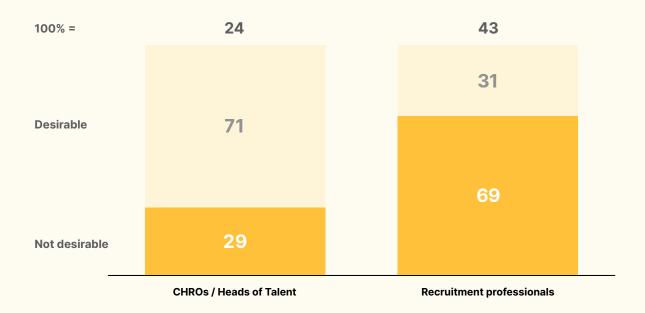


Exhibit 6: High degree of concern about return to work

Among executives considering positions in the region:

~30%+ do not still consider the region a desirable place to remain or relocate to1

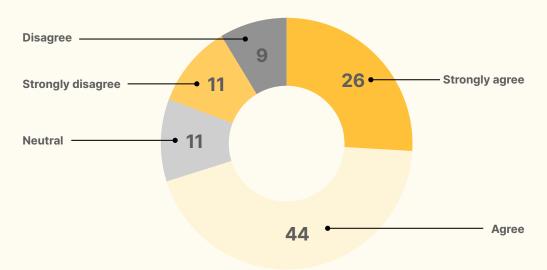
Question: Do candidates still consider New York Metro Area as a desirable place to remain or relocate to?



Among employees in the region:

70% expressed concern about personal safety at work upon returning to the office/worksite²

Statement: I am concerned about my personal safety at work upon return to my office/worksite



Two Heidrick & Struggles surveys for the Partnership for New York City: 1) CHROs / heads of talent (N=24) and 2) internal Heidrick & Struggles
recruitment professionals (N=43).

^{2.} Mercer Remesh survey for the Partnership for New York City (N=114).

COVID-19 was cause for a temporary exodus of about 5% of city residents.⁶⁴ The city's population plateaued over the last ten years due to domestic out-migration to other states. Those who left on average had a higher income than those who moved into the city.⁶⁵ If this pattern holds, the tax losses facing the state and city will be extended.

Northeast states are looking better at suppressing the spread of the coronavirus than those that were less disciplined. Nothing could have a more negative impact on economic recovery than another outbreak; nothing is more important to restoring confidence than the universal availability of a vaccine and therapeutic treatments, which will hopefully be in Q1 2021. In the meantime, action to limit hardship for those who have lost their jobs and are at risk of losing their homes and businesses must be the top priority for all New Yorkers.

Exhibit 7: Uncertainty over the future course of the pandemic **Active Confirmed Cases** (New York state, Thousands) 160 Staged opening concurrent with rapid build out of public 120 health infrastructure **Smart** 80 The population complies and moderate social distancing and measures are effective 40 Lucky New cases can be managed within a target range with 0 no major outbreaks in the future Feb-20 Aug-20 Feb-21 Aug-21 160 Public health infrastructure cannot be scaled effectively at the outset, leading to a second outbreak and lockdown 120 at the end of the summer **Plausible** 80 Renewed investment and vigilance allows us to contain and 40 further outbreaks, which are localized **Pessimistic** Future peaks are smaller and can be gotten under control 0 Feb-20 Aug-20 Feb-21 Aug-21 quicker than the first wave 160 120 Less invasive measures are ineffective in controlling the Frequent, spread of the virus, making blunt lockdowns necessary 80 **Blunt** We experience multiple peaks, some as high as or higher 40 Lockdowns than the first wave, as cases rise and fall in response to cyclical loosening and tightening 0 Feb-20 Aug-20 Feb-21 Aug-21

Source: Oliver Wyman

Indicate periods of lockdowns

The balance of this report will suggest how public-private partnerships must be put in place to restore confidence, achieve economic recovery and redefine the value proposition that the city and region offer to residents, employers, workers and visitors. The top priority is, of course, to ensure that the region's public health and health care systems are prepared to handle possible recurrences and to correct conditions that left Black and Hispanic communities particularly vulnerable to illness. The next priorities are restoring public trust in mass transit and retrieving as many small businesses and jobs as possible.

"New York has had a tremendous influx of intellectual capital over the last ten years and our recovery depends on making sure those younger New Yorkers come back and put down roots here."

Blair Effron, Co-Founder, Centerview Partners

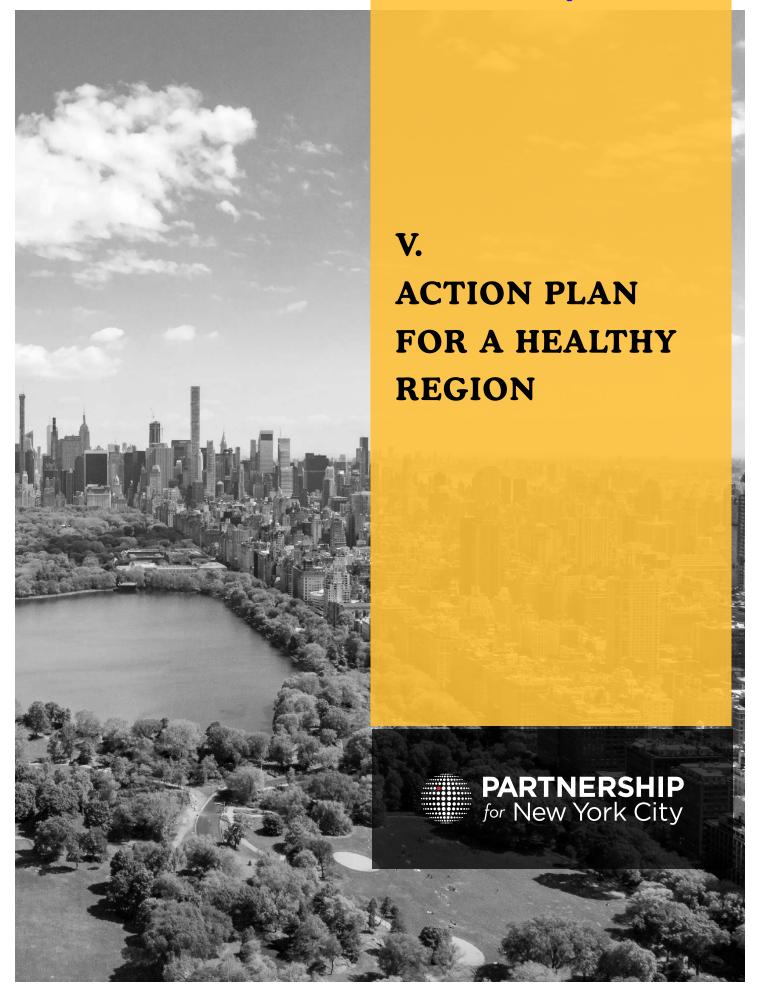
Attracting visitors back to New York and preventing talent flight will require a comprehensive approach to public safety. Every New Yorker and every visitor should feel safe from the public health risks of the pandemic as the economy reopens. But New Yorkers must also feel safe from crime, from racial discrimination, and from failures of law enforcement and the criminal justice system. Racial equity and public safety are complex and long-standing issues that could not be fully addressed in this report but must be seen as preconditions for recovery.

To restate the obvious, COVID-19 is a crisis we cannot afford to waste, in terms of finally addressing the needs for more affordable housing, reducing the high costs of doing business, modernizing infrastructure, and ensuring equitable access to education, entrepreneurial and employment opportunities. This report focuses on the necessity of drawing upon the expertise and resources of all sectors if we are to achieve rapid recovery and new beginnings. Today, the government does not have the bandwidth or resources to tackle these challenges alone.

Leadership must step up from business, labor, communities, and the philanthropic and nonprofit sectors to join in public-private partnerships that will be dedicated to building consensus around solutions and executing on them.

"Every downturn has one thing in common—they end."

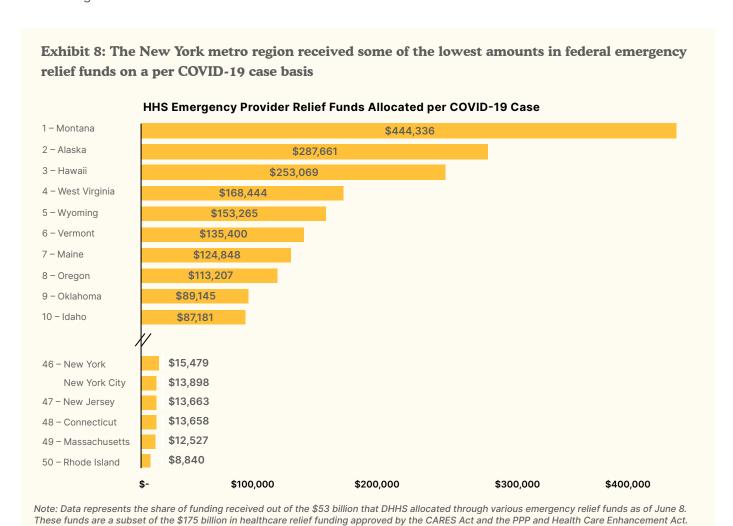
Barry Gosin, Chief Executive Officer, Newmark Knight Frank



Successful recovery depends on widespread adoption and observance of rigorous health and testing protocols and expansion of the health care system's capacity to meet the needs of all communities. New York can lay claim to the world's most significant cluster of leading hospitals, health care providers, medical research institutions, disease foundations and public health agencies. In the past four months, New York state went from being the epicenter of COVID-19 to becoming the most effective in containing the coronavirus.

COVID-19 placed unanticipated stress on the entire health care system and exposed the limited capacity of regional health care providers due to high occupancy rate (74.2%), relatively few primary care physicians (60% below national average per 1,000 residents), and maldistribution of care facilities.⁶⁶ Pre-COVID-19, the average patient hospital stay was four to five days; COVID-19 patient stays ranged from eight to twelve days. Providers lost an average of \$1,200 to \$8,000 per patient, as hospitals are not reimbursed for the full length of a COVID-19 stay.⁶⁷ Elective surgeries nearly stopped for three months, risking the health of non-COVID-19 patients and costing the region's major academic hospitals as much as \$450 million in revenue each month.⁶⁸

Six hospital systems handled nearly half of all COVID-19 cases in the region.⁶⁹ Many smaller clinics and facilities shut down and now might close permanently. Less than half of the federal stimulus funds allotted to hospitals were disbursed more than six weeks out—and the total allocation is not anywhere near sufficient to cover losses.⁷⁰ New York state health care providers received 11% of funds allocated through June 8, despite the state accounting for 27% of U.S. deaths and 19% of confirmed cases at that time.⁷¹



Source: PFNYC analysis of CDC, "HHS Provider Relief Fund," data through June 8, 2020; Johns Hopkins daily reports, data as of June 8, 2020.

ACTION PLAN

In a post-COVID-19 world, New Yorkers need to feel confident in the quality of their personal health care, the health of their community, and the capacity of New York City to handle the next pandemic or widespread health crisis. This is not just a matter of spending more money. New York spends nearly 80% more than the national average per capita on health care.⁷² What is required is greater attention to a better integrated system of community-centered patient care, driven by policy and funding guidelines that ensure equitable health outcomes for all communities.

The following are suggested steps to achieve a stronger health care system and a healthier region:

Support Contact Tracing

A successful contact tracing program is essential to preventing future outbreaks as schools, restaurants, sporting and entertainment venues reopen during flu season. Both New York state and city have launched major testing initiatives and the city has hired and is training more than 3,000 contact tracers.⁷³ In the first weeks of the city's tracing efforts, only 42% of those who tested positive cooperated with follow up information on contacts, but progress is being made and partnerships with employers and the health care system promise to be the best route to ensure a comprehensive and effective program.⁷⁴

Contact tracing would best be conducted under a national program, especially as interstate and international travel resume. In the meantime, the federal government should reimburse local efforts, including significant public education outreach that might use the network developed for the 2020 Census initiative to reach diverse communities.

Support telehealth expansion

Care delivery and consultations are predominantly centralized in larger systems. Telehealth is helping to move away from this model and expanding access to more New Yorkers. Nationally, 48% of physicians are now using telehealth to treat patients. In 2014, New York state passed its Telehealth Parity Law, which allowed providers to train and scale physicians to operate through their respective platforms. However, virtual doctor visits never gained widespread acceptance pre-COVID-19.77 Going forward, virtual health services for non-emergency routine care can reduce costs and burdens on health care facilities, provided that patients have consistent, reliable broadband access. Incorporation of telehealth visits into patients' existing medical records will build continuous care. Reconsidering key regulations impacting telehealth and continuing the relaxation of rules put in place during the COVID-19 response, such as allowing clinicians to provide care across state lines, will push further adoption.

"Testing, tracing and public health standardization have to be the first priority. The second priority is getting our small businesses back, and third is ensuring the security of all New Yorkers."

Kenneth Jacobs, Chairman & CEO, Lazard Ltd.



Building trust through common standards and interoperability

More and more data and research are pointing to indoor transmission as a major risk factor.⁷⁸ Much of New York City's economic, social and cultural life takes place inside buildings and facilities.⁷⁹ As long as there is no vaccine widely available, New Yorkers and visitors will hesitate to enter and remain in buildings and facilities if they are unsure of risks to which they may be exposing themselves.⁸⁰ Without some trusted assurances, New York City's vibrancy will not return at the same pre-COVID-19 level.⁸¹

In the absence of official national guidelines, building owners and tenants are investing heavily in building improvements and protocols designed to maximize the health and safety of employees and visitors. The Partnership for New York City is exploring how to standardize universally accepted and independently validated trust markers which would be simple, visible signs such as the city letter grading system for restaurant inspections, that easily communicate the level of safety efforts a particular building or establishment has undertaken to protect its occupants and visitors.⁸²

One possibility is to set up a nonprofit or public entity that could certify compliance with different levels of assurance (e.g. Gold Standard, Silver Standard) that will not only help address the immediate concerns but also make sure that the city is far better prepared for future pandemics.

Different levels should be available to allow the rapid adoption of these trust markers and the implementation of simple, low-cost steps that can drive immediate trust improvement.⁸³ At the lowest level, standards could include things like mandatory, enforced facial coverings and simple hygiene protocols and reminders coupled with self-certification and community reporting.⁸⁴ More sophisticated efforts would be required for higher-level certification.⁸⁵

Common trust markers will form the foundation of interoperability across different domains and provide the foundation of a 'health passport' system that enables less restricted activity among individuals that have met certain agreed-upon health and safety thresholds. Such a system could allow, for example, the return of in-person meetings between employees from different companies, enhanced safety around package delivery, and safer child care/school reopening options. Health passports would require significant coordination both within and across the private and public sectors and would need to be designed with appropriate protections to user privacy.

New York startup Clear, which provides a touchless biometric pass to expedite airport security clearance, has introduced a health pass that utilizes verifiable data such as a COVID-19 test link or, when it is available, proof of vaccination. 86 This is a promising tool for accelerating the reopening of indoor event space and other venues.

"We need a universal standard that will allow people to move freely in and out of buildings and transit without fear of infection and illness."

Kewsong Lee, Co-Chief Executive Officer, The Carlyle Group

Organize care around community health hubs.

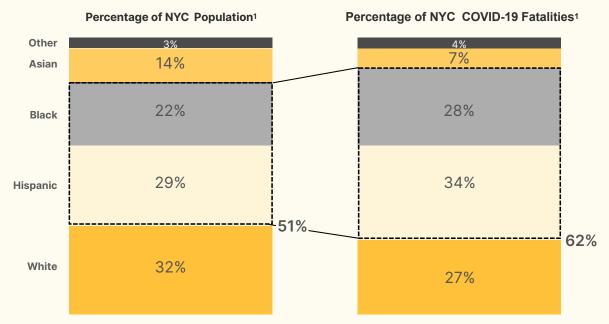
Inadequate preventative care and poor access to primary and post-acute care facilities in low-income communities led to a concentration of vulnerable populations that were disproportionately impacted by COVID-19. This concentration put pressure on public and safety net hospitals with the fewest resources to deal with the highest volume of patients with the most severe COVID-19 symptoms. While hospitals will always be necessary for addressing high-acuity cases, delivering low-acuity services in community health hubs can make preventative care more accessible and help lower health care costs.⁸⁷ Community health hubs with telehealth capacity can play a key role in expanding preventative services such as screening and diagnostics, home-care delivery, physical therapy and nursing services.⁸⁸

Infusing health care services into schools, supermarkets and pharmacies would provide more access points close to home and encourage New Yorkers to use preventative care services more frequently. Providing capable care in places that residents know and feel comfortable in could dramatically increase preventative care and reduce dependence on high cost hospital beds.

Shift from "fee for service" to population health management

Health care services in New York are traditionally focused on a "fee for service" relationship between patients and providers. Given capacity constraints and growing demands, hospital systems are not able to focus on long term health outcomes, particularly for low-income individuals and communities of color. Population health management systems are changing this culture, providing large hospitals the data, insight and action needed to keep people healthy and living longer. Particularly for communities where chronic and complex disparities exist, management systems can help address the root cause of these health issues earlier, avoid multiple, costly visits to the emergency room and create a cost-efficient Medicaid program.⁸⁹

Exhibit 9: Black and Hispanic people represent 51% of the New York City population, yet account for 62% of COVID-19 fatalities



^{*} Based on independent research and discussions with NY DOH, infection rate by race is not available

Disproportional Effects of COVID-192

- In the U.S., Black people account for nearly 23% of COVID-19 fatalities, while only comprising 18% of the population
- Patients with underlying health conditions such as diabetes, lung or heart disease are at a higher risk of COVID-19 hospitalization
- Black and Hispanic residents represent 27% and 34% of the NJ and CT populations yet account for 46% and 47% of COVID-19 cases across the two states, respectively

Underserved communities' COVID-19 infection and fatality are highly correlated with underlying comorbidities and social determinants of health

Source: Deloitte



^{1.} NY State Department of Health (as of 6/5/2020).

^{2.} CDC (as of 6/5/2020).

Reform Medicaid

With unemployment on the rise, demands on the state's very high-cost Medicaid system, already the second largest expense in the state's budget after education, are growing significantly.⁹⁰ The Urban Institute projects an increase of 641,000 Medicaid enrollees if the state unemployment is 15%, and 1.2 million if unemployment climbs to 25%.⁹¹ In 2011, Governor Cuomo formed the Medicaid Redesign Team (MRT) to find efficiencies in the Medicaid program to lower costs and improve quality of care. The recommendations put forward by the MRT produced \$19 billion in savings. The MRT reconvened this year and introduced an additional set of recommendations included in the FY 2021 Enacted Budget, with a savings of \$2.2 billion.⁹²

In response to the COVID-19 crisis, a new MRT should be convened to supplement the federal 1115 application.⁹³ This new MRT, with broad business and community participation, should focus on an action plan to reform the funding system that both expands access and lowers costs by transitioning from traditional fee-for-service and managed care models to value based care (VBC). VBC pays providers based on the quality of care provided to patients, incentivizing providers to deliver better care for patients and enabling a broader continuum of health-related services for the populations they serve. Aligning providers on VBC being in their economic interest will be critical to a successful transition.⁹⁴

Implement a system of data sharing

When hospitals in the metropolitan region reached a breaking point in their ability to provide care, there was no visibility into where excess capacity existed. The lack of a common, integrated system for tracking and managing data left the state to create its own centralized "patient management system." The federal government similarly issued the Cures Act Final Rule to break down information silos. Going forward, common systems, syndromic surveillance and standardized Electronic Health Records should be universally required and designed to allow for seamless sharing across different software. Other countries with integrated systems, such as Singapore, fared much better during the crisis because of their universal datasharing practices mandated by their governments.

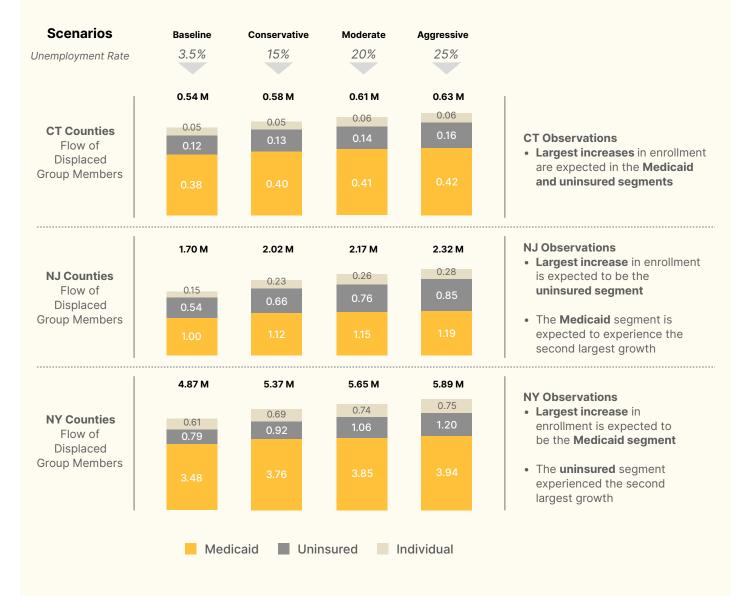
Integrate health care and human services providers

Services focusing on the social determinants of health are largely delivered through nonprofit organizations pursuant to multiple city and state contracts and are not formally connected to the health care system. These services address such issues as domestic violence, mental health, child welfare, addiction, food insecurity and homelessness. They are chronically underfunded and rendered through silos, rather than comprehensive patient care management. Community health would be better served by moving from direct government contracts to public-private partnerships with community health providers, integrating funding with Medicaid and private insurers.

Streamline procurements

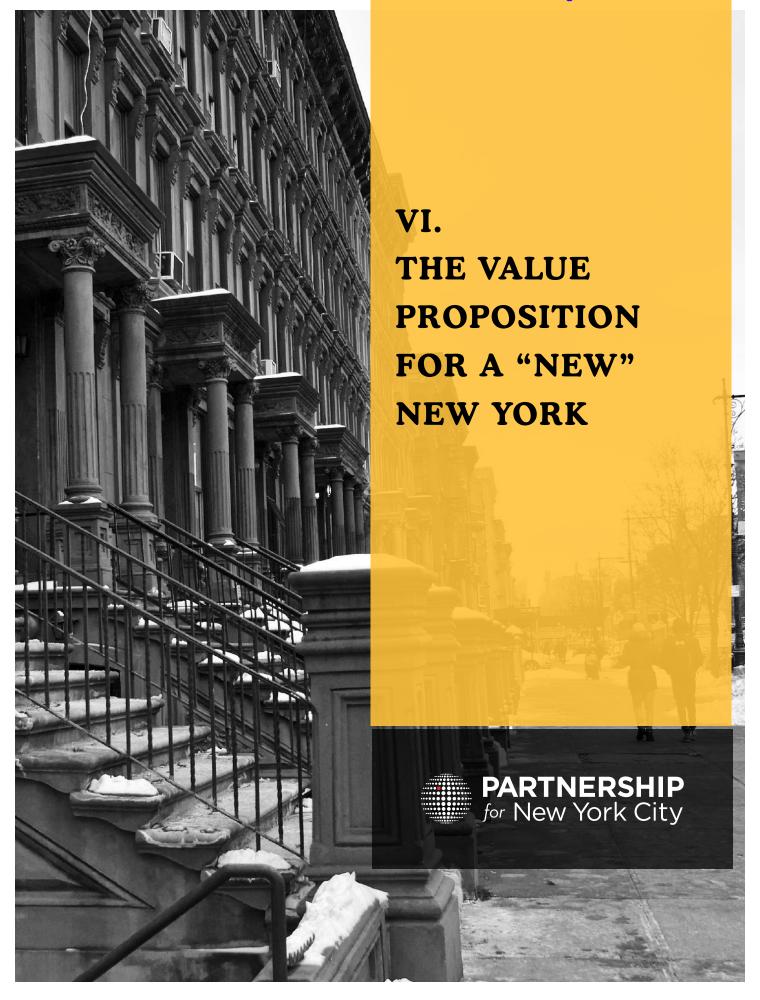
Hospitals, governments and local providers were initially competing to get adequate supplies. During the state of emergency these organizations began coordinating procurement for personal protective equipment (PPE) and ventilators, gaining cost savings and efficiency. However, the focus remained on hospitals and hospital systems, making procurement for physician groups, independent clinics and nursing homes difficult. A new, regionally aligned organization could facilitate advanced "bulk" purchases from local/domestic manufacturers and maintain a safety stock of critical supplies. In addition, health systems can contract with local manufacturers to produce PPE, bringing the supply chain domestic. When the health care network works collaboratively, local supply chains and consolidated purchasing can realize benefits from streamlined processes.

Exhibit 10: Newly unemployed across the metropolitan region will overwhelmingly shift to Medicaid or go without insurance



Notes: The Sudden Stop: A Deeper Trough, A Bigger Rebound; Goldman Sachs Economics Research, 31 March 2020; Kaiser Family Foundation; Bureau of Labor Statistics Employment Situation, February 2020; Census.gov 2017 SUSB Annual Data Tables by Establishment Industry; NAICS Association Market Analysis Profile: NAICS Code & Total Employees; Bank of America Merrill Lynch, Managed Care Primer 2019, 01 May 2019; The Common Wealth Fund, For Many, COBRA Coverage Is Out of Reach; Manatt consultation; U.S. Census SAHIE Data (2019).

Source: Accenture



To rebound from COVID-19, New York must re-establish itself as the world's most compelling destination—the best place to build a life and career. That starts with restoring trust in the health of the city, but there are three additional values that are central to the promise of New York post-COVID-19: Opportunity, Affordability and Innovation. These values reflect the ideals of a 21st century city, but they have become harder to realize as New York has grown more expensive, its job requirements more exclusive, and its politics more polarized.

The city and region have literally tens of thousands of private organizations and public agencies that are dedicated to advancing one or more of these values, but none have sufficient scale or resources to make a dent in the ravages caused by COVID-19. Our conclusion is that New Yorkers must create new public-private partnerships with diverse leadership from every sector. These partnerships must bridge the gaps in our society and our economy: gaps in skills and knowledge, affordability and income, racial and ethnic disparities and the digital divide. This will require a new organizing framework, bringing together leaders, experts and advocates from all sectors.

A. ADVANCE OPPORTUNITY THROUGH EDUCATION, ENTREPRENEURSHIP, AND EMPLOYMENT PARTNERSHIPS

New York's comeback from past crises has centered on the proposition that this is a city where opportunities abound, whether you want to get an education, land a great job, start a business, or become a Broadway star. Opportunities are not equally available anywhere, but New York offers a broader spectrum of opportunities with greater potential rewards than any other place in the country, if not the world. Now is the time to ensure that New York's recovery embraces and promotes racial equity and true equality of opportunity that the world desperately needs.⁹⁷

1) A PUBLIC-PRIVATE PARTNERSHIP FOR BLENDED LEARNING

In March, the abrupt transition of primary and secondary education to an online format, opened the door to rethinking curriculum and pedagogy. Educators learned new skills, bureaucrats made practical decisions, unions bent contracts, and the private sector came to the table to help create materials and standards for the virtual classroom.

When COVID-19 struck, the New York City Department of Education (DOE) had days, not years, to develop a new education platform, acquire equipment, identify curricula and train teachers in its use. The emergency nature of this shift required centralization of the selection and procurement of programs and materials, rather than the legacy process through which each of the city's 32 school districts makes its own decisions—a process that is inefficient, expensive and daunting for vendors.⁹⁸ With unprecedented urgency and flexibility, the DOE and the United Federation of Teachers leaned heavily on the private sector to accomplish the transition. This public-private partnership must continue and be enhanced as public education moves to a blended learning model of classroom and online instruction in the fall.

There are precedents for this type of cooperation, but on a smaller scale: IBM's P-TECH High School in Brooklyn, Mastercard and K2's cybersecurity-focused early college high school in the Bronx, and the CS4All program launched by venture capitalist Fred Wilson that is preparing 5,000 teachers to teach computer science. Computer science programs are unequally distributed, with a greatest concentration in Manhattan and Brooklyn.⁹⁹ The curriculum is sometimes insufficient, with a focus on basic knowledge but not the tools needed to transition to more advanced work and job opportunities such as an IT developer.¹⁰⁰

Schools will reopen in the fall but cannot accommodate all the city's 1.1 million students with appropriate social distancing, which means that remote learning will continue to be a major component of the education experience. There is much work to be done to perfect the model, but New York City is positioned to be a leader in K-12 blended learning, working in partnership with a growing local cluster of education technology entrepreneurs and nonprofit organizations. The full force of the city's tech sector should be put behind this transformation, the schools of education must be brought into the network, and philanthropic resources should be aggressively committed to finally bridging the digital divide that has historically disadvantaged so many Black and Hispanic students.

"This year of remote learning is both incredibly challenging, and also an opportunity to learn new ways of teaching, learning, studying and assessing. The city's tech leadership is prepared to make a major effort to help teachers, students and families adapt to digital learning and make it a permanent complement to traditional classroom education."

Fred Wilson, Chairman, CS4All & Partner, Union Square Ventures

2) A JOB PARTNERSHIP TO CLOSE THE SKILLS GAP

Actions taken by business and government to sustain essential services during COVID-19 dramatically accelerated workplace automation and digitization. Even pre-COVID-19, analysts estimated 42% of workplace activities would be digitized in some capacity as early as 2030. Consequent job losses will disproportionately impact communities with lower levels of educational achievement and contribute to health-income-race disparities.¹⁰¹

"A crisis amplifies trends; it doesn't create a new paradigm."

David Solomon, Chairman & CEO, Goldman Sachs

The labor market is shifting more quickly than schools of education or school bureaucracies can keep up with. As a result, there is a structural disconnect among the job market, the classroom experience, and most educational and training programs. Of the top fifteen hard skills requested on job listings in the region, six skills have shifted in the last two years, a 40% change in the advanced skills demanded. 102

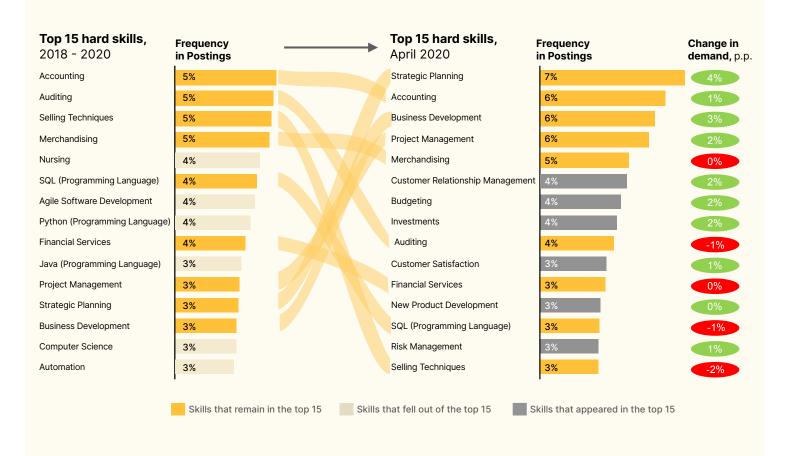
In January, there were more than 300,000 job listings posted in the city, with most of them requiring some technical credentials. Today, there are still over 200,000 job vacancies, even with unemployment in the city at more than 18%. The problem with the region's labor market pre-COVID-19 was a shortage of skilled workers, not jobs. Post-COVID-19, the same issue will only intensify.

COVID-19 could ultimately leave as many as one million New Yorkers unemployed, adding to the existing skills gap and requiring new models for preparing New Yorkers for jobs in growth sectors of the economy. To address that challenge quickly and at scale, educators and employers must engage in public-private partnerships that depart from past practice in the city. A collaboration among over twenty large New York City employers to create a job council is in formation. Their goal is to work closely with New York City's public schools and colleges to create sustainable pathways into careers, develop new strategies for workplace learning and skills application, and to expand microcredentials and other elements of work-integrated learning.



Creating a holistic education and job-skilling program will require changes in funding silos, state certification and degree requirements, and broad-based buy-in from educators and employers. This sets the stage for embedding workforce development programs in an educational setting, a necessary convergence to prepare students for jobs in a knowledge-based economy. The transition to a blended learning curriculum (online and classroom) that is taking place in New York and elsewhere can expand the range of opportunities for companies and their employees to contribute directly to curriculum development and instruction, and spur changes in city, state and federal policies that hobble needed reforms.

Exhibit 11: Top hard skills required by employers in the region have shifted in response to a post-pandemic world



40% of the top skills in demand have changed in April 2020 (post-pandemic) vs the last 2 years: strategic planning, business development, and project management have jumped to the top of the list of demanded skills while nursing and computer-oriented skills have fallen out of the top 15.

Source: McKinsey analysis of data from EMSI 2020.1

3) JOB MATCHING: IMMEDIATE AND LONGER-TERM NEEDS

Matching programs are a critical tool in moving people into gainful employment and careers. Few systems today are able to do the comprehensive skill-based matching required to perform successful workforce placement with targeted upskilling, and certainly not at a meaningful scale. New York needs to mount such an effort quickly.

New technology platforms have emerged using the application of artificial intelligence to provide real-time labor supply and demand data and improve matching. Applying advancements in AI, machine learning and even quantum computing, New York should quickly launch a public-private initiative to place large numbers of unemployed residents in employment. An example might be matching a registry of unemployed actors with expanding online education and telemedicine programs, where their communications and entertainment skills might be particularly relevant.

One resource could be *People + Work Connect*, an employer-to-employer initiative, that brings together companies laying off employees with those in urgent need of workers. The free B2B platform works cross-industry to shorten the cycle of unemployment. The analytics-driven platform pools non-confidential and aggregated workforce information by categories such as location and experience.¹⁰⁵

CUNY, where most city public school graduates attend college, reports the need for greater job matching. In 2019, only 20.6% of CUNY students participated in an internship and only 11.7% were in a paid internship, putting these students at a disadvantage in a competitive job market where building relationships with employers prior to application for a permanent job is important.¹⁰⁶

Job matching programs are also important to the city's expanding gig economy, which will need to absorb many who lost their jobs due to COVID-19. There is a need for a public-private platform where gig workers can identify opportunities to quickly begin earning along with an initiative to develop portable benefits to make this flexible approach to employment more financially secure.

Exhibit 12: The CUNY system has significantly improved graduation rates since 2004 and contributes meaningfully to the region's supply of health care and STEM workers Degree types awarded by CUNY schools in 2018 CUNY's 3-year graduation rates have improved in the last 10 years Number of Share of CUNY 3-year Graduation rate (%) degrees awarded (%) degrees awarded **CUNY Total** 13 22 12,464 20% **Business** вмсс 20 11 10 Humanities 16 239 26% **Bronx** 16 Social Science 3,897 6% 8 38 46 Health care 11,934 Hostos 19% 22 6 28 7,086 **STEM** 11% Kingsborough LaGuardia 14 9 23 Education 3,973 6% 11 12 23 6.519 10% Queensborough Other National average for large city public 2004 Cohort 2014 Cohort High demand field 2-year systems: 20.9% Note: Data includes all completed post-secondary degrees.

Source: McKinsey analysis on data from CUNY; Integrated Postsecondary Education Data System Graduate Rate Survey, 2011-2012 & The National Center for Education Statistics (NCES) & IPEDS 2017 Graduation Rate Survey, NCES; McKinsey analysis of data from the National Center for Education Statistics; McKinsey analysis on data from NCES IPEDS

4) A ONE STOP SHOP FOR ENTREPRENEURS IN CRISIS

Borough chambers of commerce estimate that as many as a third of local small businesses will permanently close as a result of COVID-19.107 Most small businesses have less than three months of cash reserves, the entire length of *NY PAUSE*.108 That means that funds to restart, pay back rent and buy inventory are exhausted, leaving tens of thousands of entrepreneurs at risk, particularly business owners of color.

The Partnership Fund for New York City and the New York City Economic Development Corporation are working with borough chambers of commerce and business leaders to establish a "Restart and Recovery Clearinghouse" that will mobilize financial and technical support for struggling entrepreneurs, with a focus on minorities and women. Volunteer advisors drawn from corporations, technology firms, private equity, accounting and law firms will be part of a menu of support. The goal is to provide timely intervention at scale to save as many businesses as possible.

Exhibit 13: More than two in five vulnerable jobs in New York City are in small businesses with fewer than 100 employees; SMBs account for a significant proportion of vulnerable jobs across sectors

Vulnerable private sector jobs by industry and company size (% of total, thousands of jobs)

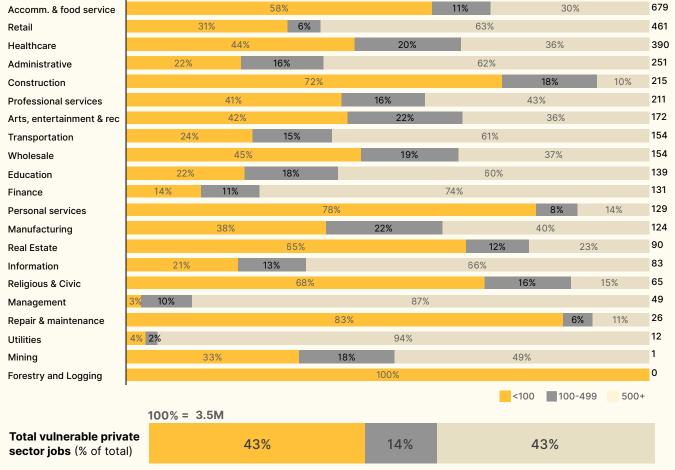
Accomm. & food service

58%

11%

30%

62%



1. Analysis determines vulnerable jobs as a function of physical distancing policies and their immediate knock-on economic consequences – assumes maximum physical distancing (defined by shelter-in-place policy); data is for the NYC MSA.

Source: McKinsey Global Institute analysis, LaborCUBE, BLS Occupational Employment Statistics



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For example, the Clearinghouse could organize corporate procurement, advance purchase, and digital coupon programs to start cash flowing to recovering small businesses. A "Shop Local" digital coupon system linked to existing payment cards could be offered to employees to use for shopping and eating at their favorite local establishments. 109 At sufficient scale, pursued by the regions' largest employers, the value of these prepaid coupon incentives could provide material funding to help small businesses restart their operations via prepaid packages. Major credit card companies could support this effort using their back-end infrastructure to meet the terms of the employer and set the small business parameters.

"We need a "Go Digital" package for small and medium sized businesses to provide the means and infrastructure to bring them online."

Hafize Gaye Erkan, President and Board Member, First Republic Bank

Another goal of the Clearinghouse will be to expand the capacity of the region's Community Development Financial Institutions (CDFIs), mission-driven lenders and microfinance organizations. The crush of Paycheck Protection Program (PPP) loan applications from unbanked, largely Black- and Hispanic-owned firms stretched the resources of New York's nine SBA-approved CDFI lenders. Goldman Sachs moved quickly with New York City's Small Business Services agency to capitalize CDFIs that originated 7,500 no-interest loans averaging \$75,000 at the beginning of the shut-down. One-third of the capital was deployed in communities of color. Other banks and foundations have contributed to the capitalization of CDFIs to enable them to originate federally guaranteed PPP loans, but much more capital is going to be required to meet startup needs.

B. PARTNERSHIPS TO TACKLE THE AFFORDABILITY CHALLENGE

Across almost all demographics and income levels, New Yorkers cite the city's rising costs as the most serious challenge to living or owning a business here. Housing is the biggest cost concern for residents; for entrepreneurs and employers the challenge is high rents, regulatory burdens and taxes. COVID-19 has changed the value proposition, since previous advantages such as foot traffic and easy access to the offices of clients and potential customers have diminished. On the contrary, over the past decade, political forces have created a much more expensive and litigious environment for business that is no longer sustainable for those whose margins were narrow before the pandemic.

The following are proposals for public-private initiatives to reduce the cost barriers that make the city unaffordable to so many.

1) REBUILD COMMUNITY DEVELOPMENT CAPACITY

Beginning in the 1970s, when the private sector had little or no interest in real estate in the city's struggling neighborhoods, a network of community development corporations (CDCs) emerged, seeded with foundation and federal funding. Local CDCs partnered with intermediaries like LISC, Enterprise, the Community Preservation Corporation and the New York City Housing Partnership, as well as banks and limited profit developers, to build and renovate distressed properties into low income and affordable rental and owner-occupied housing. With donations of tax-foreclosed property from the city, but relatively limited city or state funding, these public-private partnerships established the largest affordable housing program in the country and resurrected dozens of city neighborhoods between 1980 and 1995.



As land and residential values rose, the role of CDCs in housing development diminished and few remained strong enough to sponsor or negotiate projects that would be welcome in the community. Homeownership programs that had allowed residents to share in the appreciation of real estate values largely disappeared and fears of gentrification and displacement exploded. The result was the need for more city subsidies to "buy peace" and the loss of collaborative efforts to address affordable housing needs. In recent years, rezoning actions intended to ramp up affordable housing production have stalled, leaving the city far short of the inventory needed.

Post-COVID-19, recovery depends on rebuilding strong community development infrastructure so that neighborhoods can once again be supportive and engaged partners in the growth of the city, rather than ceding representation to anti-development activists. Programs must be created that restore a central CDC role. One opportunity is with the New York City Housing Authority (NYCHA), the city's largest landlord with more than 180,000 units of federally subsidized housing and significant parcels of developable land. The city has struggled for more than a decade to accelerate programs that transfer the management, rehabilitation and new development of NYCHA sites to the private sector. CDCs and intermediaries could move these programs forward in partnership with private developers and investors in order to shore up deteriorated NYCHA housing and build thousands of new market rate and affordable units on publicly owned properties.

The city and metropolitan region are likely to see an increase in distressed real estate over the coming year, sparking opportunities to repurpose property to meet public needs. A task force should review and propose innovative ways to repurpose these properties for residential, commercial or industrial use. Hotels, which were over-built before the pandemic are an obvious example.

The city is already renting hotel rooms for homeless and quarantine housing and considering them for conversion to supportive housing. The city has some leverage through property tax liens, but a federal program that would permit acquisition and write down of mortgages or mortgage-backed securities—similar to the Resolution Trust Corporation of the 1980s—would be the most efficient way to take advantage of depressed values and fill the need for affordable housing and commercial space. Local CDC sponsorship is essential for such programs to be successful.

"We must seize this moment to rethink how we rebuild faster, fairer, more efficiently, and bring infrastructure into the 21st century for all New Yorkers."

Rob Speyer, President & CEO, Tishman Speyer

2) CREATE MORE FLEXIBILITY IN BUILDING AND ZONING CODES

COVID-19 sent many young workers home to live with parents in other regions, rather than sheltering in place in a cramped and expensive city apartment. Now it is time to bring them back. The fact that 54% of jobs in the city can be handled remotely has given many young professionals a new perspective on their place of residence. Building owners report that tenants are giving up leases on expensive apartments until they see whether the value proposition of city life still makes sense to them.

For those who do not currently live in the region but are considering a job here, affordability issues are the primary gating factor. 112 In response, some employers are no longer requiring new hires to live in New York state. 113

Models of affordable housing development that can be built at reasonable cost have been piloted in the city, but never scaled. They often meet resistance from interests wedded to the status quo. Obstacles range from setback and parking requirements to density and NIMBY issues. This has added unnecessarily to the costs and difficulty of producing affordable housing in New York.

Some examples of new ideas and models that should be scaled include:

- ShareNYC, an initiative of the city Department of Housing Preservation and Development that provides zoning and building code waivers to permit construction of a modern version of Single Room Occupancy housing with private bedrooms and congregate living space with flexible leases.
- My Micro NY, a demonstration allowing construction of small apartments developed during the Bloomberg administration, adjusted zoning and building codes to increase density and meet the demands of the growing single population.¹¹⁴
- Legalization of basement apartments in low density neighborhoods is being piloted in Brooklyn and has the potential to produce rental income for homeowners and create safe additional units at an affordable cost. It requires code waivers and neighborhood acceptance.
- Policies enabling conversion of existing homes and apartments into smaller units for single individuals across the region should be explored. According to the Regional Plan Association, allowing for as-of-right construction of Accessory Dwelling Units and for the dividing of overlylarge single-family homes could produce over 500,000 additional housing units in the region.¹¹⁵
- After 9/11, Lower Manhattan became the fastest growing residential neighborhood in the city, spurred by federal incentives that temporarily subsidized rents for those who were willing to move to a neighborhood widely considered a terrorist target. Today, a third of Lower Manhattan residents walk to work. Similar live-work opportunities and federal incentives should be considered in the city and the broader metropolitan region, capitalizing on lower land and construction costs beyond the five boroughs.

3) COMMUNITY-BASED CHILD CARE

One of the key factors influencing the increase in remote, work-from-home arrangements is lack of child care options. In the New York metropolitan region, an estimated 11.5% of households with children include someone 18 or older who is not working primarily because they are caring for children due to the closure of school or daycare. The state allocated \$30 million in child care funding to income-eligible essential workers during the height of the pandemic and is providing another \$65 million to reopen and expand child care centers under new safety guidelines. Its, Its wake of COVID-19, child care needs are bound to increase, requiring a combination of community-based and private sector solutions to fill in the gap and provide affordable options for families across the city. Its in the gap and provide affordable options for

A community-based "pod"—or family childcare cooperative—provides many advantages to the traditional in-home care and institutional day care centers. Under this model, family day care providers come together to rent a convenient, common space. A micro-marketplace is set up in partnership with social media companies, providing online access to convenient pod locations. Developing these new centers, which could also accommodate online education for children who are only spending partial days in school, should be a priority for nonprofit organizations and owners of vacant retail space.

4) TAX REFORM TO PRESERVE AND ENHANCE NEW YORK'S COMPETITIVENESS

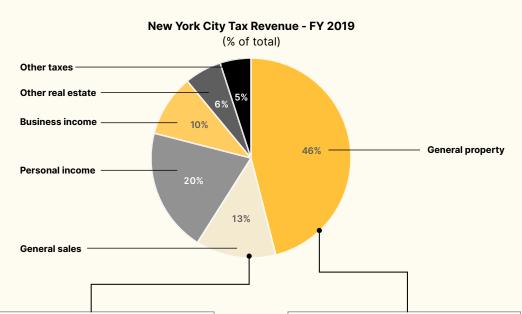
There is no more important measure for economic recovery in New York than for government to work collaboratively with private sector experts to determine whether and how to adjust the tax code to deal with budget deficits. A recent study examining American cities with the highest tax burdens ranked New York in the top ten for virtually all income levels. 122 At the same time, COVID-19-related revenue losses are projected to be at least \$5 billion for the city and \$13 billion for the state in the coming fiscal year which threaten the ability to sufficiently fund essential services like Medicaid and education. 123

"When businesses face a demand shock or when government faces a fiscal crisis, the reaction is to increase prices and taxes. It's always wrong. Keeping prices low and reducing certain taxes will go a long way for a better outcome."

Alan Fishman, Chairman, Ladder Capital

Stabilization of the tax revenue base to avoid further losses should be the first objective in a recovery plan. The reliance of the New York metropolitan region on personal income taxes is already higher than peer states at 59.3% of all revenues, compared to only 37.8% nationally, 47% in Connecticut and 40.9% in New Jersey. On the other hand, New York receives a low share of its revenues from consumption taxes (particularly sales taxes) compared to other states.¹²⁴

Exhibit 14: New York City tax revenues totaled \$60.7B in FY2019 and relied heavily on property and real estate bases



General Sales Taxes	Taxable sales (\$ million)
Restaurants & eating places	\$21,958
Electric power	\$9,928
Traveler accommodation	\$9,449
Auto dealers	\$5,859
Clothing stores	\$5,682
Electronic shopping	\$4,076
Telecommunications	\$3,649
Building materials & supplies	\$3,640
Other professional services	\$3,585
Miscellaneous retail	\$3,473

General Property Taxes	Tax levied (\$ million)
Commercial and industrial	\$11,995
Rental residential, coops, condos	\$10,274
Residential (3 or fewer units)	\$4,204
Utility property	\$1,841

- NYC stands nearly alone among U.S. cities in terms of its utilization of City sales taxes, personal income taxes and, corporate income and other business taxes.
- NYC's own-source tax revenues are larger than any other U.S. city, by a considerable measure.
- NYC tax revenues account for about 55% of all New York local government tax revenues.
- About one-half of all NYC expenditures (all funds) are for health, social services and public education.

Source: KPMG compilation from various data sources, including U.S. Bureau of the Census, NYC Independent Budget Office and NY Association of Counties.

The idea of raising tax rates on the highest earners could have the effect of creating further losses. The top 1% of earners who currently account for almost 40% of state tax revenues are highly mobile. 125 Many relocated to other locations during the pandemic and, after five months working remotely, some may consider permanent residence outside the city or state.

Immediate measures to create a more competitive tax environment include:

- Restoration of the full federal allowance for state and local tax deductions ("SALT"), which costs New York's high earner tax filers some \$15 billion in additional federal taxes annually. 126
- A moratorium on competitive economic development incentives among the seven Northeast states that are collaborating to fight COVID-19 (Connecticut, Delaware, Massachusetts, New Jersey, New York, Pennsylvania and Rhode Island).
- Review recommendations for both reductions and new revenue options that were recommended in 2013 by a state commission co-chaired by H. Carl McCall and Peter J. Solomon.¹²⁷ These included reductions in tax subsidies and rationalization of other special interest features of the tax code that could raise additional revenues while reducing unfair burdens.
- Take up proposed revisions of the city's real estate tax code with the objective of reducing the
 burden on regulated rental housing and passing those savings through to tenants or to abate the
 cost of property improvements; eliminating the commercial rent tax on small and medium sized
 business; reducing the rate for utilities that are ultimately paid by customers; and, creating
 comparable assessments and rates for co-ops, condominiums and private homes.

"The city budget crisis presents an opportunity to cut waste and the private sector can help government make tough decisions."

Charles Phillips, Jr., Chairman, Infor

C. INNOVATION PARTNERSHIPS: WHAT GOT YOU HERE WON'T GET YOU THERE

The core premise of the Innovator's Dilemma is that success as a business (or a city) can make it harder to embrace the innovation required to meet new challenges in an ever-changing world. New York City faces the risk of being captive to the status quo at a moment when emergence from the COVID-19 crisis requires dramatic change; New York must embrace an innovation agenda developed not from traditional sources but from the collision and collaboration of disruptors from across multiple sectors.

CASE STUDY: The Transit Tech Lab

In 2018, the MTA and the Partnership for New York City established the Transit Tech Lab, becoming a model for how public agencies can embrace innovation in a smart way and "try before they buy." This partnership put private sector expertise and access to cutting edge technology at the disposal of the agency. Proof of its success was demonstrated during the response to COVID-19, when the MTA called on Transit Tech Lab to quickly pilot and deploy new devices that improve passenger flow and reroute buses to accommodate essential workers during the hours the subway was closed. 129 In the example of the Essential Connector smartphone app, it took four days to accomplish what, under normal procurement policies, could have taken years. The MTA and Transit Tech Lab recently announced a COVID-19 Challenge, inviting the tech community to submit product ideas that promote transit safety.

The Transit Tech Lab can also help expand purchases from minority and women-owned businesses, which are often not able to meet the requirements of conventional procurement processes. This is a model that can and should be adopted in every sector of government.

"The next chapter is finding the vaccine and restoring confidence. Let's get out of our own way, cut through the red tape, and get critical projects done across all industries."

H. Rodgin Cohen, Senior Chairman, Sullivan & Cromwell LLP

1) PARTNERSHIP TO DISRUPT STATE AND LOCAL GOVERNMENT

In the face of the pandemic, businesses moved quickly to change traditional ways of operating and adopt new practices to achieve greater productivity and lower their costs. State and city governments also used emergency powers to innovate in the face of necessity but were crippled by a lack of internal technological expertise and obsolete equipment and information systems. More creative and forward-thinking approaches to government service delivery, facilities, staffing and procurement are important for both efficiency and to help close budget gaps. This will depend on forming a public-private partnership that the city's financial services and technology sectors are uniquely equipped to support on the business side, along with representation from organized labor and government innovators.

During the COVID-19 crisis, Governor Cuomo has issued over 40 executive orders, some of which provided more efficiency in various business and regulatory practices, reflecting modern technology and the changing ways businesses are conducted. As the economy reopens, the efficacy and impact of these efforts should be evaluated to determine if any of the changes should be made permanent.

Some other recommendations include:

- A thorough examination of how much of government work can be done remotely or online to reduce real estate, office and facility costs and reduce strain on mass transit and city infrastructure.
- Reform of the civil service system to allow for quicker hiring and promotion of employees equipped to deal with rapidly changing technology.
- Modernization and integration of IT systems and aggregation of data and improved analytics to better manage government services and, potentially, generate new sources of revenues.
- Reform of government planning and procurement processes: leveraging private and academic expertise to help vet and expand the diversity of public contractors, along the model of the Transit Tech Lab partnership with the MTA and other transportation agencies.
- Re-engineering of bureaucratic, redundant review and approval processes within agencies and authorities.
- Reduction in contracts costs through reforming liability standards and indemnity clauses for
 construction, engineering firms, professional services and others doing business with the city and
 state. Certain tax preferences and incentives should also be reevaluated for their efficiency and
 effectiveness in bringing economic activity to New York. Eliminating specific preferences or credits
 could free up public resources to invest in modern operating systems, upgrade infrastructure and
 fill the budget hole left by COVID-19.
- Experts should be convened in special purpose panels that consider additional ways the state and city can reduce expenses through reforms of procurement, regulations and operations.

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2) PARTNERSHIP TO CLOSE THE DIGITAL DIVIDE

COVID-19 demonstrated the importance of universal access to broadband and, increasingly, 5G telecommunications services to accommodate e-learning, telemedicine and the online transition of small business. New York City's efforts to close the digital divide have fallen short, largely due to bureaucratic obstacles and failure to create an effective forum where public agencies, telecom service providers and property owners can resolve differences and expedite installation of equipment. New leadership at the city Department of Information Technology & Telecommunications has taken important steps in this direction.

When the pandemic hit, 21% of NYC households had not adopted or did not have access to broadband service.¹³¹ Disparities here mirror those of education and other socioeconomic indicators: 41% of individuals without internet access do not have a high school degree and 44% live below the poverty line.¹³² On average across the country, 14% of public school students are unable to complete their school work due to these limitations.¹³³

To better support the transition to e-learning during the pandemic, Altice Advantage and Charter Communications offered free wi-fi access to college and K-12 students and professors through the end of the school year. 134,135 Government should clear the way to enable private industry to roll out robust infrastructure in every corner of the city and provide wi-fi access in the interim, as they have done in other places.

3) REGIONAL PARTNERSHIPS TO ADVANCE INNOVATION

Transition to Clean Energy

The energy sector continued to deliver electricity, natural gas and petroleum products reliably through the three months of *NY PAUSE*, led by electric and gas utilities that had worked with public agencies to put in place solid pandemic response plans. This is the approach that should be applied to speed investments in renewable energy infrastructure, clean energy technologies, cap and trade policies for buildings, and transportation electrification.

In 2019, New York state passed the Climate Leadership and Community Protection Act, a commitment requiring energy used in the state to come from clean and renewable sources by 2050. The state's energy goals include offshore wind farms with 9,000 megawatts of nameplate generating capacity, creating more than 1,600 jobs and able to power one million New York homes. A planning and regulatory structure was created in legislation, but without a commercial and private financing component. Post-COVID-19, funding for these initiatives can only be sustained through public-private partnerships.

Electric and gas utilities already budgeted \$20 billion to support the modernization of New York's energy distribution systems. 137 The state just approved a privately financed transmission line to bring renewable hydro-electric power to the city from Canada, ensuring continued reliable supply of low-cost electricity to the city. Con Edison and the National Grid are aggressively investing in renewable energy, battery storage and distribution grid modernization. Expanding on a regional strategy between New York, New Jersey and Connecticut can create economies of scale, lowering project development costs and electricity prices. 138

As the city and state have set aggressive sustainability agendas, real estate developers and building owners will have to move quickly to meet these goals. The city's Climate Mobilization Act requires that buildings exceeding 25,000 square feet reduce their carbon emissions 40% by 2030 and 80% by 2050 or face steep fines. The Urban Green Council has proposed a cap and trade program to sell emissions credits between building owners. The program would allow buildings that achieve energy savings beyond what is required to sell that excess efficiency to those that can't meet the targets in time. Further, the program should also be structured to give building owners additional credits for energy efficiency investments in low-income neighborhoods and affordable housing developments that have historically lacked green investments.

Electric vehicles (EV) are another opportunity to reduce reliance on fossil fuel. He federal Driving America Forward Act prioritizes new charging stations and infrastructure development critical to EV adoption. Between 2017 and 2018, EV purchases increased by 63%, providing up to \$5.1 billion in savings for both EV drivers and utility customers. A regional approach to transportation electrification will ensure that charging infrastructure for passenger vehicles and light duty trucks is available along heavily traveled commuter and delivery routes within the region.

These initiatives, including microgrids to support grid resiliency, will improve health outcomes in communities, particularly where environmental justice remains a challenge. More than a third of expected benefits—approximately 35%—of statewide clean energy programs and initiatives aim to support disadvantaged communities. The dramatic reduction in air pollution during *NY PAUSE*, reflective of the decline in economic activity and energy use demonstrates how closely energy use, the environment and public health are interlinked.¹⁴³

"We could make New York more attractive by fast tracking procurement opportunities with NYC-based large corporations and the city for local technology firms."

Heidi Messer, Co-Founder & Chairperson, Collective[i]

Near-shoring and Local Supply Chains

Another opportunity where regional cooperation is advantageous and necessary is to optimize local production and procurement. Advanced manufacturing has been an emerging industry in the metropolitan region and should be a focus of future economic development efforts. Opportunities range from AI-enabled devices to smart garments. Corporations were called upon during COVID-19 to provide hospitals and essential workers with PPE that they warehoused in anticipation of a pandemic. The government had no such supplies on hand, nor was the U.S. prepared to quickly produce them.

New York pivoted quickly and its garment, advanced manufacturing, and artisan sectors were producing gowns, masks, shields, ventilators and testing kits within 12 weeks. In recent decades, the country has relied on highly taxed imports even for essentials and now face a 35% drop in maker-capacity in the wake of COVID-19.¹⁴⁴ To avoid further disruptions, states across the country are focusing on diversifying supply chains and localizing sources.

The metropolitan region should be ahead of the curve. A regional task force could identify the possibilities for near-shoring production in the city and across the region.

Advocacy for the Northeast Region

During COVID-19, Governor Cuomo pulled together a council representing the governors of seven Northeastern states. Going forward, government and business leaders of the Northeast states should work collaboratively and provide leadership on critical national issues. There is some history for collective action by states on migration of greenhouse gas emissions and climate change, but this should be extended to broader areas of common interest, starting with a COVID-19 recovery agenda with the following priorities for federal action:

- Stimulus funding to reimburse states and cities for COVID-19 expenses and revenue losses.
- Limitation on the liability of employers to COVID-19-related lawsuits.
- A new national infrastructure program based on a public-private partnership model.
- Reversal of immigration policies that restrict visas for highly skilled and seasonal workers and students; adjust H-1B visas to correspond to labor market demands; and legalize DACA recipients.
- Reversal of the federal cap on deductibility of state and local taxes.
- Expand housing vouchers to bridge rent payments for workers unemployed as a result of COVID-19, as passed by the U.S. House of Representatives in their HEROES Act.
- Provide a federal backstop for coverage through a Pandemic Risk Insurance Act.



CASE STUDY: REGIONAL PARTNERSHIP FOR LIFE SCIENCES

In 2017, New York state and city joined with the Partnership Fund for New York City, research institutions, and representatives of Long Island, Mid-Hudson Valley, Westchester and the pharmaceutical corridor of New Jersey to develop a global hub of life sciences in the metropolitan region. Life sciences is a growing industry with significant potential to help lead recovery. Eleven of the top twenty global pharma companies are headquartered in the region, as are four of the top ten biotech companies.¹⁴⁵

The value of biotech and life science R&D is fueling public and private investment in these clusters. 146 Deerfield Management recently closed a \$840 million capital fund aimed at improving the way health care is delivered to patients. With city and state support, the new "Cure" campus at 345 Park Avenue South will offer 300,000 square feet of space to scientists and entrepreneurs to collaborate and execute on this mission. IndieBio, a leading bio-accelerator, this year launched a New York program on the campus of Rockefeller University. With support from the state and the Partnership Fund for New York City, IndieBio will replicate its San Francisco success with the acceleration of 90 seed stage companies.

New York has taken the lead on coronavirus response and vaccine. Pfizer's Hudson Valley facility is developing an mRNA-based coronavirus vaccine aimed at preventing further infection. Siemens Healthineers in Tarrytown developed a laboratory-based test to detect the presence of SARS-CoV-2 antibodies and already shipped more than 3.3 million tests to health systems and laboratories across the country.

Of the five companies selected by the federal government to accelerate the production of a COVID-19 vaccine, three are based in the region. 149 New Brunswick-based Johnson & Johnson announced that its COVID-19 vaccine in-human clinical trials will commence in July and plans to manufacture a global supply of more than one billion.

New York City-based life sciences startups secured a record 24 VC funding rounds worth at least \$20 million in 2019. This is up 26% from the previous high of 19 rounds in 2018, and more than doubled since 2017 when there were only 10 rounds. With 13 VC deals worth over \$20 million so far in 2020, the city's life sciences startups are on pace for another record year in deal activity. 150

To make New York the hub for life sciences, the public and private sector must continue to expand the physical footprint and bridge the gap to move from research to commercialization. Distressed real estate is a promising source of affordable wet lab space to continue this momentum.

Some recommendations to continue this momentum include¹⁵¹:

- Explore opportunities to take advantage of the increased commercial real estate availability to develop affordable wet lab space.
- Rethink the region's supply chains with a focus on developing new manufacturing facilities in the region, with a focus on advanced manufacturing.
- Provide support and services to regional active pharmaceutical ingredient (API) and fine chemical manufacturers to take advantage of the Securing America's Medicine Cabinet (SAM-C) Act incentives.
- Identify opportunities to partner with life sciences companies in the region to create new clusters of innovation.

21st Century Mobility Solutions

The MTA, New Jersey Transit, and the PANYNJ jointly run the country's largest mass transit system. The safety and cleanliness of the system are top of mind for commuters whose trip to work is the longest in the country, averaging 42 minutes.¹⁵²

In the face of pandemic, transit agencies have taken extraordinary steps to reassure riders that their health will not be compromised, including closing subway service from 1 a.m. to 5 a.m. for disinfecting and thorough cleaning. All riders and workers are required to wear facial coverings and mobile apps provide real-time information on crowding conditions, delays and service issues. Riders are encouraged to report problems via email, social media or by dialing 511. These practices are making a difference and must continue, with the addition of expanded testing and contact tracing efforts.

Despite transit upgrades, surveys show that 25% of Americans plan to use public transit less frequently post-COVID-19 and private cars more. In Manhattan, where excess traffic congestion was a crisis pre-pandemic, this is impossible.

Pre-COVID-19, average travel speed in Manhattan's core business district dropped 5% annually since 2012, while excess traffic congestion cost the city up to \$20 billion annually. In the first week after reopening, between June 8 and June 15, traffic congestion increased by 9%. In the first week after reopening, between June 8 and June 15, traffic congestion increased by 9%. In the first week after reopening, between June 8 and June 15, traffic congestion increased by 9%. In the first week after reopening, between June 8 and June 15, traffic congestion increased by 9%. In the first week after reopening in the fi

To reduce congestion and raise at least \$1 billion a year for transit modernization projects, a congestion toll program in Manhattan was approved by the state to begin in 2021. Given the increasing demand for and diversion of street space in response to COVID-19, congestion pricing is needed more than ever and the U.S. Department of Transportation should accelerate its approval.

Subways, commuter rail and private cars should not be the only mobility options as the region reopens. Ferries are an attractive but expensive alternative; they should be part of the MTA or the PANYNJ system, with synchronized connections and payment systems.

"As New York recovers, our region must continue to invest in modernizing our energy, transportation and health care infrastructure in order to restore economic vibrancy. I am confident we are up to the challenge."

John McAvoy, Chairman, President & CEO, Con Edison, Inc.

Micromobility

Micromobility is receiving broader acceptance to mitigate strain on public transit and to relieve congestion. New York is playing catch up when it comes to biking. Electric bikes and scooters have only recently been legalized.¹⁵⁷ Paris has added 400 additional miles of emergency bike lanes.¹⁵⁸ The United Kingdom moved its scooter pilot program up a full year as a result of COVID-19. Italy and France are offering residents stipends if they buy a bike or scooter or sign up for a shared service. Newcastle, in the United Kingdom, limited vehicular travel and prioritized pedestrian and bike lanes connecting to schools, parks and retail.¹⁵⁹



Lyft's Citi Bike memberships reached an all-time high in June and service is expanding into new neighborhoods and introduction of e-assist pedal bikes. Other micromobility companies report increases in new users, jumps in ridership and use cases that point to local residents opting for scooters to get around during COVID-19.

Legalization of e-bikes and e-scooters needs to include better protections for riders and pedestrians, as well as proper storage and enforceable rules of the road. To succeed, the city must redesign its streetscape, find more appropriate storage space for equipment, and create connectivity in payments and information between these last mile options and public transit.

Out of the over 1,250 miles of bike lanes in New York City, only 40% are protected, which contributed to nearly 30 cyclist deaths in 2019, a recent high. To expand and upgrade bike and scooter accommodations, the city should work with private companies that benefit from micromobility at their doorstep. Introducing interoperable payment and data sharing systems will also provide a comprehensive view of mobility patterns, driving better decisions about where new infrastructure can be most impactful.

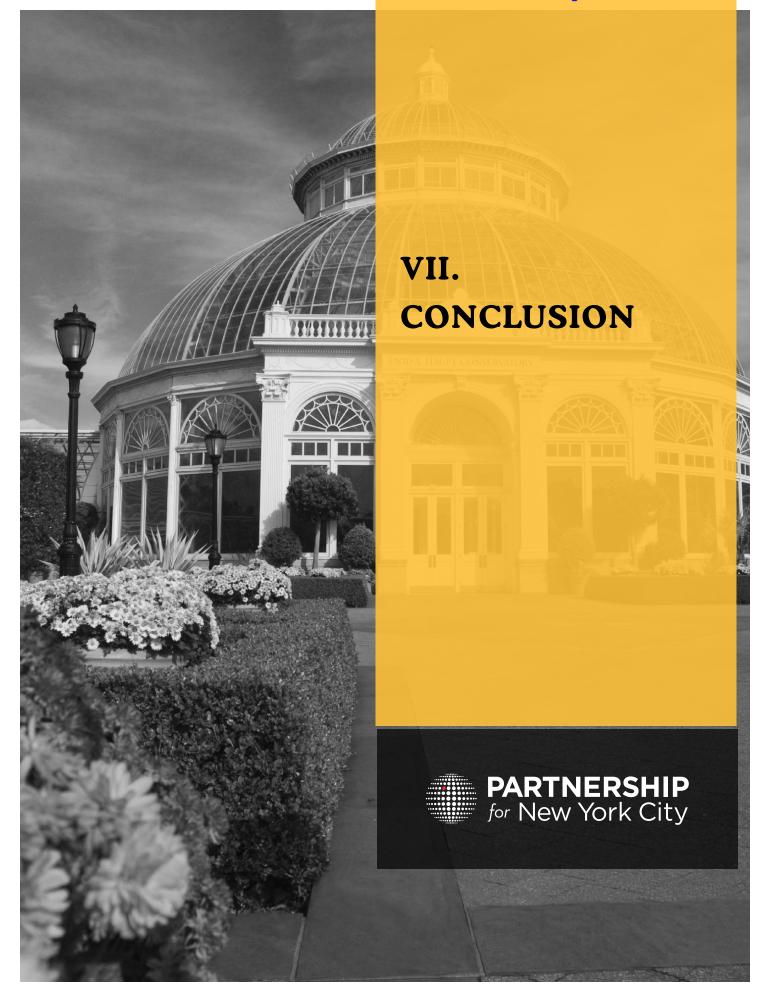
Optimization of Freight Operations

Public agencies have struggled for years with the inability of the city to efficiently accommodate truck deliveries. This is a challenge that should be the focus of public-private partnership initiatives with a strong technology component. COVID-19 brought a significant uptick in online purchases and home deliveries, a trend that will likely continue. Truck-based freight accounts for 89% of the 365 million tons of cargo that enters, leaves or passes through the city each year. However, truck routes are inefficient and costly. Delivery trucks account for over 470,000 parking violations and contribute to reducing speeds within Manhattan to just seven miles per hour.

Trucks currently drive back and forth between production facilities and retailers multiple times a day. Pickup and delivery routes are not always determined by geographic efficiency, adding more truck miles than necessary on city streets. Establishing consolidation centers—strategically located hubs to optimize deliveries between the wholesaler and the retailer—could significantly reduce mileage, congestion and cost. Ideally, these depots would be located outside the city's central business districts where multiple deliveries to a single site could be consolidated. Expanding the use of smaller vehicles, like those currently piloted through the New York City Department of Transportation cargo-bike program, and software management of the curbs would streamline last mile deliveries, reduce congestion, idling, road hazards, double parking and more, while creating more space for protected bike lanes.

As part of freight management, the city should implement its commercial sanitation zoning plan, which was stalled due to COVID-19. Under the plan, private carters are assigned to individual or neighboring districts through a bid process. The new approach would cut truck mileage by at least a half, optimizing pick-ups based on geography. These districts might be applied to freight delivery services as well, to accomplish the same purpose. Additional actions to ease congestion and improve street utilization include: eliminating tour buses; incentivizing shippers and carriers to use Share Use Networks; developing infrastructure (e.g. larger bike lanes and bike parking) to enable the use of cargo-bikes; and incentivizing shippers and third party logistics companies to repurpose vacant buildings into micro-fulfillment centers. 165,166,167 Further, New York should incentivize night time deliveries (7 p.m. to 6 a.m.)—focused in central business districts in Manhattan, Brooklyn and Queens—to keep bike lanes, curbs and sidewalks clear during highly trafficked times of the day.





New York's sense of pride and toughness is rooted in a long history of resilience and innovation. In the 19th century, entrepreneurs and innovators flocked to New York to ignite the Industrial Revolution. New Yorkers exceeded the expectations of the industrial age with the construction of the Brooklyn Bridge in 1883 and the New York City subway in 1904. We surpassed our peers to build the tallest tower in the world, the Chrysler Building. We then surpassed ourselves by building the taller Empire State Building only a few blocks away. This mindset reflects the pragmatism, determination and openness to change that will be required if New York is to successfully rebound from COVID-19.

As the pandemic raged, Governor Cuomo was accorded extraordinary powers to make decisions and take actions required to deal with a state of emergency. He put forward a clear, data-driven approach to the health crisis that commanded public support and resulted, by the end of June, in record low numbers of new COVID-19 cases.

Responding and rebuilding from the economic crisis will be more complicated. It will require a significant degree of consensus on the impact of the pandemic and how best to move forward. Providing the data required to forge that agreement and suggesting components of a plan to accelerate recovery was the purpose of preparing this report. The next step is to engage leaders from the private and nonprofit sectors, who reflect the full diversity of the city, to bring their resources and expertise to the task of rebuilding and reinventing our city.

Regarding the future of health care, the state government has the lead responsibility for ensuring public health and coordinating the capacity-building and longer-term transformation of the hospital and health care system. But the state will need the support of business, labor and health IT experts to accomplish this task. A new entity should be established to assume responsibility for policy making, monitoring and enforcing testing and tracing, capacity-building and measures needed to ensure public health. Separate public-private partnerships should be set up to develop plans and policies to reorganize the current system around achieving community health objectives and corresponding reform of funding and reimbursement requirements.

Ideally, economic recovery should be led by the nongovernmental sectors—business, labor, research and educational institutions, and other experts. One past model for coordinating the interface between government and other sectors that is required to manage disaster recovery is the Lower Manhattan Development Corporation (LMDC), created after 9/11. Set up as a state authority, LMDC synchronized state and municipal planning, ensured public input and allocated federal funding.

This report has proposed a variety of public-private partnerships to mobilize collective actions around various aspects of economic recovery and to provide specialized input into planning and execution of key interventions. Top priorities, beyond health, are initiatives that would fast track and scale aid to small and minority-owned businesses; improve online education and training and hiring of disadvantaged populations; implement a community development approach to affordable housing production; develop a balanced plan for budget and tax reform; modernize government processes and advance renewable energy, digital infrastructure and freight delivery optimization.

As the city and region struggle to emerge from the pandemic, health and economic challenges are conjoined with issues of race, police-community relations, increases in crime, and reform of the criminal justice system. Multi-sector leadership must come together in a spirit of hope and collaboration to resolve them. The business community is committed to assist and support this effort.



The Partnership for New York City would like to thank all the individuals and organizations who gave their time, expertise and resources to make this report possible. The conclusions and the recommendations are the views and responsibility of the Partnership for New York City.

A selection of detailed exhibits and reports are available for review on the Partnership website www.pfnyc.org. Reports on creating a resilient system of health, the economic impact of changes to certain taxes, pandemic risk and other topics as relevant will follow.

Consultant Teams



Jack Azagury
Lee Barrett
Gabrielle Brown
Caroline Chambers
Jake Chan
Shiva Chandrasekaran
Ravi Chanmugam
Florence Chen
Christina Chou
Vicky Darbouze

Eduardo Fernandez

Avigail Goldgraber
Tiffany Gong
Charles Hack
Matthew Haggerty
Girard Healy
David Helin
Fangli Hou
Alexandra Jankun
Hamilton Jenkins
Rinky Jitendra Vora
Jenna LaPietra

Rachel Martin
Trevor Matern
Laurie McGraw
Lynn McMahon
David Moskovitz
Kenneth Munie
Jessica Nabitovsky
Sergio Pareja
Haralds Robeznieks
Liridon Rrushaj
Arojit Saha

Jesse Sands
Ava Scheininger
Tejaswini Shetty
Charlie Smith
Michael Spellacy
Ramsay Stewart
Melissia Suarez
Yusuf Tayob
Cathinka Wahlstrom



Mollie Beach Petra Schmidt
Peter Keuls Rajiv Ramanathan
Jeff Lee Rick Weil

Mina Morris Sherif Zakhary



Jeanne BickfordAdam HutchisonSimon PellasToby BrehenyJacob LuceJohn RoseBrian CollieDavid Zuluaga MartinezAaron Shapiro

Rich Davey Antonio Miscio Augustin Wegscheider

Dalberg

Genevieve O'Mara Pooja Singhi Erin Barringer Daniela Sanchez Kiran Willmot Mark Freedman

Victoria Monteiro Maria Alejandra Sandoval

Afua Sarkodie Michael Mori

Deloitte.

Elizabeth Baca Scott Corwin Simon Gisby **David Betts** Stephen Gallucci Jennifer Radin



Karen Benway John Harrison **Enoch Minn** Jennifer Walsh **Emory Witt** Karl Cheng Haley Henriksen Mats Penberthy

Herb Engert Rich Jeanneret Kate Pinto

Alex Gregoire Seth Reynolds Mike Magrans

KEARNEY

Brian Freilich Korhan Acar Alanna Klassen Jamjoum David Siegel Will Callender Stuart Klein Jim Singer Annie Huang Mark Clouse Aman Husain Ryan Mathews Ben Smith

Ryan Eames Oleg Isakov Marc Palazzolo Joshua Swartz

Fred Eng Alyson Potenza Michael Felice Kashif Khan Kathryn Rauen

Himanshu Jain

Maxime Francois Wagas Khan Briana Saddler

Judd Caplain Fred Hensel **Constance Hunter** Ash Shehata Harley Duncan Thomas Herr Alison Little George Spakouris

Federico Garcia Steve Hill J.J. Malfettone

Sean Hoffman **Bob Garrett** Rema Serafi Michael Zimmerman

McKinsey & Company

Victoria Brown Anna Fu Vikram Malhotra Sudeep Doshi Julie Goran Aly Spencer Charlie Duane Ju-Hon Kwek Kayla Thompson



Amanda Drescher Peter Rutigiliano
Stephanie Penner Kathleen Woodruff

OLIVER WYMAN

Matthew Aks Samir Misra John Romeo
Edwin Anderson James Morgan Adam Schneider
John Colas Anders Nemeth Simran Singh



Monica Bielawski Kathryn Kaminsky Sheena Mollineau Udayan Tripathi Sara Brandenburg Stacy Magdaluyo Fiona Page Lena Wu

Nessa French Susan Mathew Charlotte Reardon

Michael Ilardi Megan McHale Jeff Senne

westMONROE

Jose AvilaCole KastenDavid SouthDaniel BelmontGil MermelsteinAshish TiwariPaul A. DeCotisJamie MizeJohn Vance

Willis Towers Watson I.I'I'I.I

Nick Dunlop Suzanne McAndrew Simon Young

Matt Furman Paula Pagniez

Paul Hilliar Louise Pennington

Additional Contributors

The Partnership for New York City would also like to thank the following firms for their pro bono contributions to the report.



HEIDRICK & STRUGGLES









Report Authors

Kathryn Wylde

Natasha Avanessians

Partnership for New York City Staff

Merrill Pond

Brook Jackson

Nicky Lineaweaver

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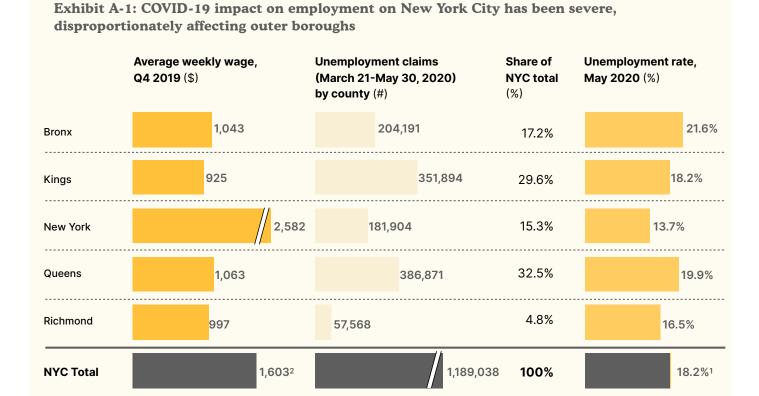
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NYC has had >1.1M unemployment filings to date since the onset of the pandemic; outer boroughs are disproportionately affected – they account for 84.6% of unemployment claims to date although they only made up 77% of employment pre-COVID-19

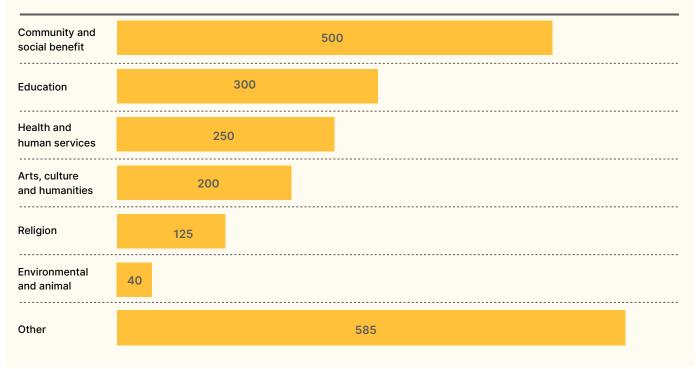
- 1. Straight average of county-level unemployment rates.
- 2. Average weekly wage is for the NYC MSA.

Source: McKinsey analysis of New York State Department of Labor, Labor Force and Unemployment Data, 2020; New York State Department of Labor, Weekly UI Claims Report, weeks ending 3/21/2020-5/30/2020; US Bureau of Labor Statistics Quarterly Census of Employment and Wages

Exhibit A-2: Thousands of nonprofits in the New York City metropolitan region are projected to close due to COVID-19 pandemic

Number of nonprofits at risk of closure

2,000 nonprofits are at risk of closure

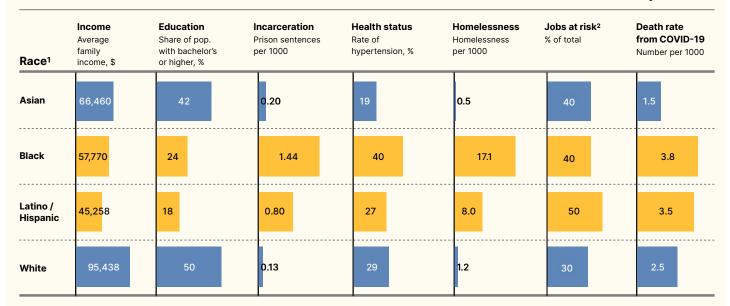


Source: PwC

Exhibit A-3: Structural challenges for Black and Latino/Hispanic New York City residents before the pandemic put them most at risk

Structural inequities prior to crisis...

... fueled a disproportionate impact on the lives and livelihoods of minority residents



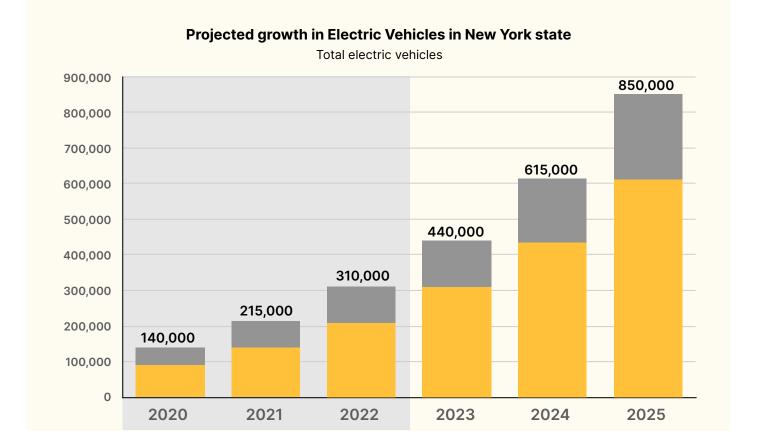
Pre-outbreak disparities in income, education and employment status meant Black and Latino/Hispanic residents held jobs most at risk in the pandemic

Source: McKinsey analysis on data from NYS DCJS-OJRP (incarceration), Towncharts (education), Towncharts (income), New York City Department of Health and Mental Hygiene (health status), Coalition for the Homeless (homelessness), NYS COVID-19 tracker (deaths), McKinsey Global Institute (vulnerable jobs)

^{1.} Racial categories consider Latino / Hispanic as non-inclusive of individuals who identify with another racial category. Black, White, Asian, and Other racial categories include non-Latino identified individuals.

^{2.} Jobs at risk is calculated as the number of vulnerable jobs by race over the total employment figures by race. Vulnerable jobs data is provided by McKinsey Global Institute and describes the estimated number of jobs disrupted by COVID-19, including those permanently laid off, those workers on temporary unpaid leave, those forced to accept lower wages or fewer hours, those that exit the labor force, and multiple job-holders forced to reduce the number of jobs worked.

Exhibit A-4: Continued investment in electric vehicle infrastructure as part of New York's recovery could spur increase in ownership by more than 6X by 2025

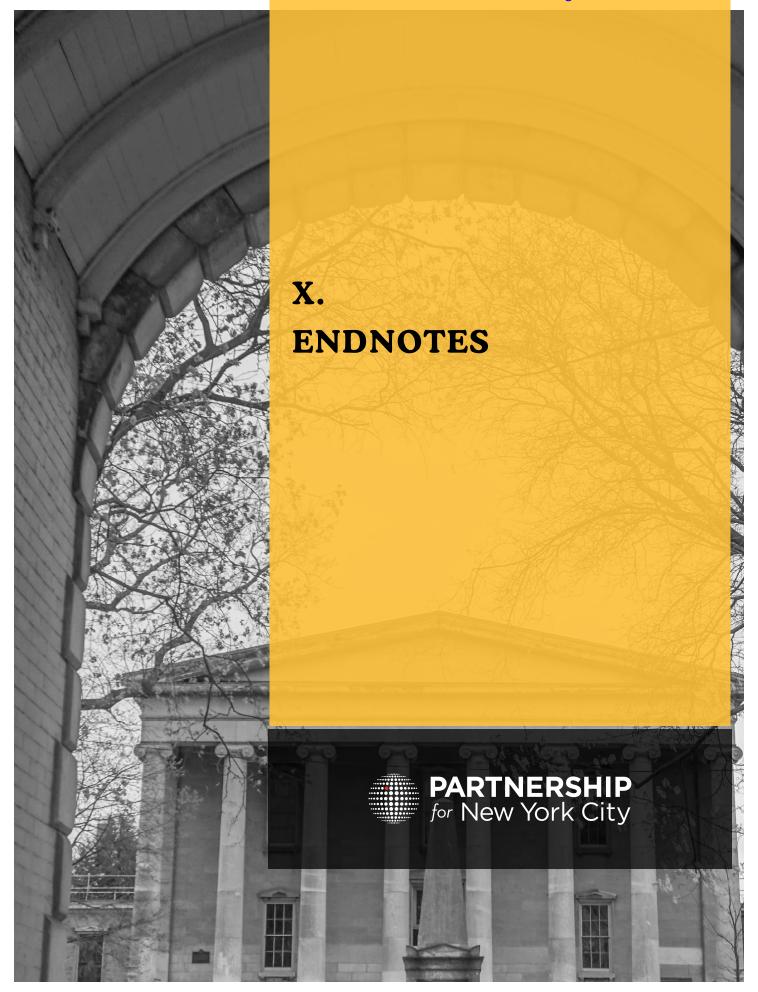


EVs on the road

Recovery and reinvention

New EVs

Source: West Monroe



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